



UNIVERSITY OF KWAZULU-NATAL

**Industrial Clustering as a tool to enhance competitiveness of the economy of
the KwaZulu-Natal Province, South Africa**

By

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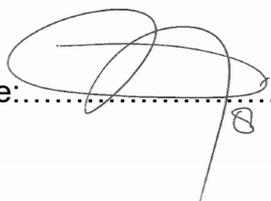
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Thanks be to Glory

Glossary of Acronyms

ASGISA	Accelerated Shared Growth Initiative of South Africa
DTI	Department of Trade and Industry
EDTEA	Department of Economic Development, Tourism and Environmental Affairs
GEAR	Growth, Employment and Redistribution
IPAP	Industrial Policy Action Plan
KIDS	KwaZulu-Natal Industrial Development Strategy
KZN	KwaZulu-Natal
MERS	Macro-Economic Reform Strategy
NDP	National Development Plan
NGP	New Growth Path
NIPF	National Industrial Policy Framework
PGDP	Provincial Growth and Development Plan
UNIDO	United Nations Industrial Development Organization

Abstract

The South African government has in the past 20 years developed various industrial policies that were geared towards industrialisation and making meaningful contributions towards the creation of jobs, dealing with the issues of inequality and poverty. Some provinces including the KwaZulu-Natal (KZN) then followed suit in tailoring the national policies and strategies to ensemble their respective provincial imperatives. Subsequently, the Industrial Clustering concept was employed as a special purpose vehicle in order to enhance competitiveness of the various priority sectors. The study interrogated the challenges that were experienced by the KZN Department of Economic Development, Tourism and Environmental Affairs supported industrial clusters. It was that discovered that some industrial clusters collapsed and failed to sustain due to governance, inconsistent funding, leadership, lack of co-ordination and government proactive or induced approach in initiating clusters. The study further analysed the regional and international competitiveness of industries, knowledge-based theory of spatial clustering of industries, the dynamic nature of localization, regionally concentrated specialized firms linked vertically by value chains gain from complementary competencies and vertical and horizontal integration of firms showing a critical importance of similar or substitutive competencies, leading to cognitive proximities, innovation and enabling mutual learning processes. In a bid find an everlasting solution, an industrial clustering framework was developed in order to ensure that industrial clusters are guided and supported in terms of the provision of the policy imperatives and financial resources. Further, the five (5) supported industrial clusters (Maritime Cluster, Wood and Wood Product Cluster, Music Cluster, Textile and Clothing Cluster and Fashion Council) by KwaZulu-Natal government unanimously agreed that government should play a facilitation role in developing policies and strategies that are destined to promote industrialization and organisational competitiveness of the industrial clusters. Lastly, the study re-affirmed the relevance of Porter's Diamond Model as there are unprecedented benefits that are accrued by individual members who join the industrial clusters.

Key Words:

Industrial Clustering; Competitiveness; Industrialization; Organisation, Firms, Government, Policies, Benefits, Support, Challenges

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Chapter One

Introduction and Overview of the Study

1. Introduction

In 2004, the Department of Economic Development, Tourism and Environmental Affairs (EDTEA) established the concept document called KwaZulu-Natal Industrial Development Strategy (KIDS) which identified priority sectors in order to stimulate and enhance competitiveness of the KZN economy. The formulation of KIDS was based on the Growth Employment and Redistribution Policy (GEAR), National Industrial Policy Framework (NIPF), the Accelerated Shared Growth Initiative of South Africa (ASGISA), Macro Economic Reform Strategy (MERS) and KZN Provincial Growth and Development Strategy (PGDS). The KIDS strategy was focusing on the priority sectors that were destined to create jobs, alleviate poverty and to deal with the issues of inequalities. Subsequent to that, various sector strategies were developed in order to focus on the growth and development of each sector hence the establishment of various units within the department. Therefore, Industrial Clustering was employed as a special purpose vehicle in order to enhance competitiveness of the priority sectors identified by EDTEA. In early 2000, the industrial clustering concept found its way to South Africa through United Nations of Industrial Development Organisations (UNIDO). At the beginning, there were no industry experts of the cluster concept. There were three provinces which took an initiative to adopt the industrial clustering concept, namely; KwaZulu-Natal, Western Cape and Gauteng. The relevance of industrial clustering concept in South Africa and KwaZulu-Natal in particular was critical in ensuring that the industries make a significant contribution into the economy of the province and the county at large. Therefore, this chapter introduces the study with highlights of the ensuing chapters.

1.1. The rationale and significance of the study

Industrial clustering is an emerging business concept finding its way in South Africa despite being implemented worldwide especially in developed countries. The challenge that has been experienced by the Department of Economic Development, Tourism and Environmental Affairs is that most of the industrial clusters that were established ten (10) years ago have collapsed or failed.

Some of the reasons for failure are that government has been instrumental in initiating these clusters - **induced approach** (Morris 2006). In the emerging markets government should not create legislations and policies that directly seek to create clusters or networks. Government should not use public funds in setting up clusters hence policies should not be created to stifle healthy competition in the markets (World Bank 2004). Furthermore government should not start or initiate clusters of the ailing firms or markets (Morris 2006). The starting point was to identify the levers (policies and strategies) that drive competitiveness of the priority sectors both at national and provincial levels (Ishmael 2008). The outcome of the study was to assist the government (EDTEA) to realise the set strategic goals and objectives in order to deliver according to the expectations of the industries. The prosperity of the industrial cluster concept was thereby based on the understanding that industrial clusters provide the basis for regional economic growth and prosperity (Barnes 2003, Morris and Barnes 2007, Spencer, Vinodrai et al. 2010).

1.2. **Problem Statement**

There were virtually no cluster initiatives in the KZN province (Gabor 2006, Morris and Barnes 2007, Fowler and Kleit 2014). The province of KwaZulu-Natal through the Department of Economic Development, Tourism and Environmental Affairs employed the industrial clustering concept from United Nations Industrial Development Organisations (UNIDO) as a tool to enhance competitiveness of the priority sectors (Gabor 2006, Morris and Einhorn 2008). The challenges that have been experienced over the years were that most clusters have relied heavily on government support which resulted in the unfortunate circumstance where several clusters have collapsed. The EDTEA has initiated most of these clusters without consultation with the industries which resulted to non-committal by industry to buy into the good concept. Most industries cited that the government was employing an unstructured approach. Each industry had its own challenges and the solutions were different. In some instances, government funded clusters through a use of a firm of consultants or transfer funding directly to the clusters through the conclusion of the funding agreements (Morris and Barnes 2007, Schwab and Sala-i-Martin 2010). This approach or intervention by government was viewed as super imposition and it was not providing solutions into the teething problems of industrialising the KwaZulu-Natal province.

(Morris 2006) also emphasised the need for natural creation of clusters by industry and rejected the government-driven approach. Clusters that were established by the industry to take charge of the business operations and make sure that the cluster initiative becomes a success (Ishmael 2008). As it is not novel that the emergence of small medium industries played an integral part in growing the economies of the developing worlds, the Department of Economic Development Tourism and Environmental Affairs realised a need to support such initiatives through industrial clustering concept. Further, there is an increasing agreement that clustering helps small enterprises to overcome growth constraints and compete in distant markets but there is also recognition that this is not an automatic outcome. It was for these reasons that a service delivery framework should be developed in order to assist government to deliver according to set strategic goals and objectives.

1.3. The Objectives of the Study

- To establish the relevance of Industrial clustering in industrialising the KZN province.
- To explore the relationship between Industrial clustering and organisational competitiveness.
- To establish the reasons for the downfall of the industrial clusters.
- To develop an industrial clustering framework that will assist EDTEA in supporting local clusters.

1.4. Research Questions

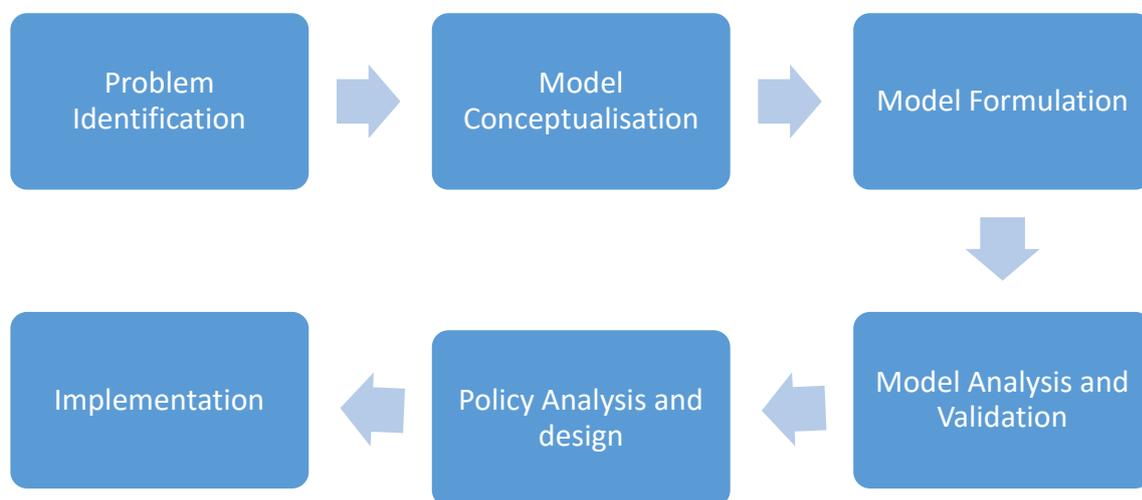
- How relevant is industrial clustering in industrialising the KZN province?
- What is the relationship between industrial clustering and organisational competitiveness?
- What are the reasons for the downfall of the industrial clusters?

1.5. Development of a Service Delivery Framework to support Industrial Clusters by EDTEA

The researcher used the System Dynamic Model when developing A Service Delivery Framework to Support Industrial Clusters assisted by EDTEA.

The overall objective of the study was to develop a Service Delivery Framework that is destined to assist government in resolving the teething problems of supporting the industrial clusters and how government would develop a policy position going forward. In chapter six a Service Delivery Framework is developed. It narrates the processes on how government should develop policies, guidelines and strategies, industry formations and the implementation of a Service Delivery Framework thereof. Figure 1 below indicates the process on the development of the Service Delivery Framework which is detailed in chapter 6.

Figure 1.1: System Dynamic Model



Source: Adapted from (Barlas 1996)

The **system dynamic model** was employed to analyse the internal system of clusters and government processes of supporting the industrial clusters. The system dynamic model also assisted in validating and testing the developed model.

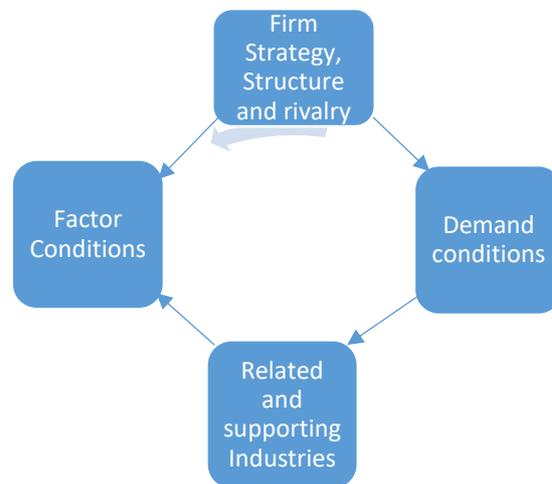
1.6. Theoretical Importance and framework of Industrial Clusters

The cluster concept was founded by Porter (1990) when he advocated the concept of clustering. In this concept, Porter (1990) advocated that government should be involved in the creation of policies that stimulate the development of industry clusters.

Industrial clusters promote industries who are geographically located and specialises in common or complementary products (for example automotive car manufacturer and component suppliers). This concept promotes and enhances regional growth. Porter (1998:199) defines industrial clusters as “a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities.”

With the help of the diamond model, Porter stresses, for example, factor and demand conditions, and conditions that shape the firms’ strategy, structure, and rivalry as sources of positive cluster effects (Gordon and McCann 2000, Porter 2000, Markus 2008).

Figure 1.2: Proposed Industrial Clustering Framework



Source: Adapted from (Gabor 2006)

Figure 2 denotes the theoretical framework that was used during the study. There were many scholar critiqued and supported Porter’s diamond Model. The researcher engaged Porter’s Competitiveness Diamond Model which identifies four sets of components concerning regional-level competitiveness. In this instance, the diamond model is regarded as a relevant theoretical framework for measuring company-level competitiveness (Porter 2000, Markus 2008). The knowledge-based theory of spatial clustering highlights the dynamic nature of localized learning process as sources of cluster-specific advantages. In this regard, regionally concentrated specialized firms linked vertically by value chains gained from complementary competencies.

The vertical and horizontal integration of firms shows a critical importance of similar or substitutive competencies, leading to cognitive proximities enabling mutual learning and motivation (Altenburg and Meyer-Stamer 1999, Morris and Barnes 2007). Titze, Brachert et al. (2014) pointed out that firms within the clusters highlight the role of global pipelines of actors in industrial clusters to circumvent the risks of negative lock-in effects within regional cycles of competencies.

When ASGISA (2004) was crafted its aim was to develop local industries in order to be globally competitive and be capable of seizing the existing opportunities. The industrial policies are established to promote sectors which encourage labour-absorbing capacity, technological contribution to the economy, or earning of foreign exchange.

It is imperative for South Africa to adopt sector development policies in order to maximise economies of scale and beneficiation of raw materials or commodities through labour absorption, which will result in creating more jobs (MERS 1997). The Macroeconomic Strategy was focusing on the vision 2014 with array of programmes such as ICT, industrialisation, attracting of foreign direct investment, job creation and tourism to mention few. The NDP (2013) and NGP (2010) seek to intervene where there are market failures with the result to large-scale job losses in industries such as textile and clothing and mining. These policies also emphasize the importance of dealing with unstable economic performance through redirecting economic activities in different regions.

GEAR (1996) emphasised the international competitiveness and the manufacturing development strategies. In this instance the GEAR policy set a tone for South Africa to attract the international investors after the Reconstruction and Development Programme (RDP) failed to attract the much needed foreign direct investments (FDI) hence the concept of industrial clustering was adopted as one of the drivers for contributing into the economic growth of the country. According to PGDP (2013:24) 'unemployment has been identified as one of the major structural constraints within the KZN Province and contributes to high levels of poverty and income inequality, which deteriorates the overall quality of life of the people of the Province'. It is critical to mention that the sector development unit within EDTEA consists of Project Managers who are heading various clusters.

Ishmael (2008) viewed the small developing countries model of clusters as a highlight of the historical difference between the emerging economies and those of the developed countries by Porter (1990), for developed nations in his book *The Competitive Advantage of Nations*. The argument between Ishmael (2008) and Porter (1990) is the issue of geographical isolation and the historically open economic systems of industries.

It has to be noted that the porosity of industries who are working together within the cluster strives to get a lion's share than the individual firm through benchmarking and the enhancement of competitiveness in a bid to enter into the world markets. Singh (2006) when he delivered a paper on industrial clustering in Cape Town he defined industrial clustering as an industrial phenomenon which is now adopted by many countries and industries. Historical evidence in both developed and developing countries such as India and Italy most industries (firms) opt to work together in order to maximise the economies of scale throughout the value chain.

The economic benefits for clustering are known to be a phenomenon. Singh (2006) also pointed out that firms benefit from clustering through:

- a. The proximity to the sources of raw material – The collective voice of procuring production inputs is one of the critical issues that binds organisations or firms together in order to maximise the economies of scale (Ozgen 2011).
- b. The availability of office space or park - The location for the cluster is paramount more especially the office space where the industry operations will take place. Some industries prefer to be co - located within the vicinity where similar/complimentary industries are located.
- c. The abundance of clients attracted by the cluster – The clustering phenomenon bears enormous advantages for members in terms of benefitting from other clients other than the cluster members.
- d. The presence of a skilled labour force – The sharing of the pool of skilled labour force with the cluster enhances competitiveness of industries and thereby increase production and productivity.

Singh (2006) further indicated that these local external economies are passive benefits that arise from the geographical proximity of producers. The following are the defining characteristics of the industrial cluster (Porter 1998, Ozgen 2011):

- a. Knowledge spillover – The technological advancement poses a challenge to many industries/firms in terms of competing with the rest of the world. The geographical location plays a critical role for industries to benefit from other cluster members in terms of sharing knowledge and technical know-how (Mytelka and Farinelli 2000, Enright 2003).
- b. Improved market access – The collective marketing and the identification of niche markets enhances competitiveness of industries and thereby benefitting in terms of transport and logistics, lead times and delivery high quality products (Morris and Barnes 2007, Nie and Sun 2015).
- c. A specialized and skilled labour pool – The labour force within the clusters are known to be specialists in their respective fields and therefore the availability of a pool of skilled force increases productivity, production, minimises lead times and increases efficiency (Schwab and Sala-i-Martin 2010, Smit 2010)
- d. Infrastructure – The infrastructure is the central point of industrial clustering since industries pull together in a central venue where all necessary support is available. In this instance infrastructure enhances competitiveness of all industries within the cluster value chain (Spencer, Vinodrai et al. 2010, Pratt and Hutton 2013).
- e. Enhanced access to specialised information on technologies and markets – Market intelligence and technological advancement make industries to succeed. The competition posed by local and international competitors warrants industries and clusters in particular to be a step ahead in terms of understanding the global environment and the impact of the Fourth Industrial Revolution (Schwab and Sala-i-Martin 2010, Natrass and Seekings 2013)

Cluster-based development concept is increasingly being recognised as one of the cost-effective and sustainable strategies for the development of industries/firms in order to promote exports. Therefore the literature is clear that public policy can rarely create a cluster if no existing policy exists; at the same time, there are lots of evidence that clusters benefit from public support.

1.7. Research Methods

During the research methodology, the decision-making process is critical. Some decisions taken tend to be interconnected and impact one another (Teddlie and Yu 2007). Brannick and Roche (2007) further asserted that all aspects contained in a research project should be coordinated in a systematic approach and controlled by epistemological (Creswell 2013) assumptions and convictions of the researcher in a bid of solving the research problem and the available theory thereof.

1.8. Types of Scientific Research

Bhattacharyya (2006) states that while the process of management follows a typical structure; approaches may be different and vary from situation to situation. The researcher will use the mixed method (Qualitative and Quantitative Methods).

1.9. Mixed Method

The use of the mixed methods is premised on the fact that the service delivery framework developed required inputs from various industry stakeholders as well as government officials. Therefore it was not prudent to develop a framework that was based on the opinions, discussions or facts but also it should be noted that facts should be reliable hence the use of the statistical methods (Creswell and Clark 2007, Bezuidenhout, Davis et al. 2014). Both qualitative and quantitative complemented each other since the development of the new service delivery framework was going to be implemented by the government for the benefit of the industries. Further the use of the mixed method was that the population and the sample size was not too large. Therefore, the use of the mixed methods research will increase the credibility of the study (Rubin and Babbie 2005). It is critical to note that the data was collected simultaneously in order to ensure reliability and validity of information and the results thereof.

1.10. Qualitative research

The researcher will use qualitative research in order to increase the validity of the findings. The issues that will be deliberated during the study are the realities and experiences (Struwing and Stead 2001, Rubin and Babbie 2005) that have been faced by the industry role-players, firms and industries as well as government.

Therefore it was critical to interrogate the industry role-players to analyse and validate the problem (Sekaran and Bougie 2003, Saunders 2011). The sample was drawn from the population comprising of various industry or sector specialists, industrialists, government officials who were involved in developing economic policies, beneficiaries/firms, economic development strategists and research specialists (Maxwell 1992, Neuman and Kreuger 2003).

The researcher used five (5) government (EDTEA) funded clusters as the targeted population and five (5) projects managers who were in charge of the industrial clusters within the EDTEA and in total the population was 10 participants (Gravetter and Forzano 2003, Saunders 2011).

1.11. Quantitative Research

The researcher used quantitative methods in order to ascertain that the data collected during the qualitative process was reliable (Mark 1996, Gravetter and Forzano 2003). The quantitative methods assisted in the testing and validating the service delivery framework (Neuman and Kreuger 2003, Rubin and Babbie 2005). In this instance the questionnaire was designed on the basis of the eminent issues affecting the growth and development of the industrial clusters. The researcher focused on the registered members of the respective clusters, that is, Textile and Clothing Cluster; Music Cluster; Fashion Cluster; Forestry Cluster and Maritime Cluster. The population consisted of 300 cluster members (Sekaran and Bougie 2003, Strydom 2011). Further, more than 150 questionnaires were received from all five industrial cluster members that are funded by KwaZulu-Natal government. It was imperative that the framework was adopted and used by industries and government in order to fast-track service delivery in the country. Since the population and sample size was not large it was therefore critical for this study to ensure that the results for both qualitative and quantitative (Creswell 2009, Creswell 2013) hence the research and interpretation of the results were conducted simultaneously.

1.12. Definition of Terms

Industrial Clustering – It is a geographic concentration of industries within a same location with sharing a common vision and administrative resources

Induced Clusters – These clusters are superimposed by government without the concern of the industry stakeholders.

Industry Networks – It is a trust among players that has been established and the strategic direction agreed upon, the operational dialogue which is communicated through electronic means.

Industrialisation – It is a process of economic changes through various policy reforms introduced by government for the betterment of the society

Industrial Economic Hubs – it is an apex priority programme of economic development for a specific country.

Competitiveness – it is an increase in the productivity and the development of both firms and industry through the effects of four forces. i.e., Firms strategy and rivalry, Demand conditions, Related or supporting industries and Factors conditions.

Comparative Advantage – It is the ability of an individual firm or industries to produce goods and services for a lower opportunity costs or economic activity (such as producing a specific product) more efficiently than trade partners.

Economies of Scale – it refers to the cost advantage experienced by a firm when it increases its level of output. Therefore the greater the quantity of output produced the lower the costs of production.

Geographic location – it is a location of a specific cluster of industries that accounts for a large proportion of a certain economic phenomenon such as producing high quality products for both local and international markets.

Local content – it is materials, workers (inputs) used to make a finished product that are from the area where the product is made rather than being imported.

Innovation – It is a process of translating an idea or invention into a good or service that creates value or for which customers will buy.

Technology – it is a branch of knowledge that deals with the creation and use of technical means and their interrelation to subjects such as industrial, engineering, knowledge, applied science, and pure science.

1.13. The Structure of the Theses

Chapter One: Introduction

This chapter introduces the study and the synopsis of the research design. The study provides the problem statement, research objectives and the research question.

The chapter further provides a background on the theoretical framework used in relation to the teething problems faced by industrial clusters supported by the Department of Economic Development, Tourism and Environmental Affairs in the KZN province and further interrogates and fill the gap in terms of the research design.

Chapter Two: Theoretical Framework and Literature Review

Chapter two examines the industrial clustering concepts and theories. It defined industrial clustering concept in detail and provided scholarly views and discussions regarding their establishment. It further provided analyses of the local and international best practices, policies and strategies that characterized the implementation of the industrial clustering concept in the KwaZulu-Natal province.

Chapter Three: The context of the study

The literature further interrogated the competitiveness of the five (5) industrial clusters supported by the Department of Economic Development Tourism and Environmental Affairs. This chapter plays a critical role in critiquing all five supported industrial clusters in relation to the theoretical framework.

Chapter Four: Research Methodology

The processes of the research design are revealed in chapter three. The study used mixed method in resolving a research problem. The research instrument was developed and interviews were conducted. The two methods were discussed thoroughly on how the processes unfolded. Triangulation was used to achieve good results.

Chapter Five: Data Analysis and Presentation of Results

Chapter four provided the data analyses and presentation of the results from the questionnaires and interviews conducted. The study used triangulation method for interviews and sending of questionnaires which were done simultaneous in order to achieve best results in terms of reliability and validity. The results were based on the research objectives of the study.

Chapter Six: Discussion of Results

In this section, the results were discussed. Themes and descriptive concepts were analysed and discussed based on the theoretical framework and literature. The results depicted that industrial clustering concept was crucial in industrialising the KZN province on the basis of the fact that the government should provide continuous support in creating the much needed jobs in order contribute into the growth and development of the KZN province.

The results further warned government to avoid political interference in the operations of the industrial clusters. The industrial clustering framework was developed in bid to assist the KZN province to implement the industrial clustering concept.

Chapter Seven: Conclusion and recommendations

This section harmonized the deliberations and findings from all chapters and make recommendations of further studies emanating from this research work. The implementation and conclusions were drawn.

1.14. Conclusion

This chapter introduced the study objectives, research questions, theoretical framework and the research methodology that was used in collecting and analysing the data for the research problem. The researcher engaged the industry captains that are leading the five industrial clusters that were funded by Department of Economic Development, Tourism and Environmental Affairs. The following chapter focused on the theoretical framework that assisted the researcher to find the solution to the research problem.

Chapter Two

Theoretical Framework

2. Introduction

The previous chapter introduced the study. This chapter presents literature related to the study taking into account the study objectives. Further, the chapter interrogates the theoretical framework and scholarly opinions on how industrial clusters have been instrumental in industrialising the KZN province. The chapter also explores the relationship between industrial clustering and organisational competitiveness and the reasons for failures. Key concepts underpinning the study are extensively defined.

2.1. What are industrial clusters?

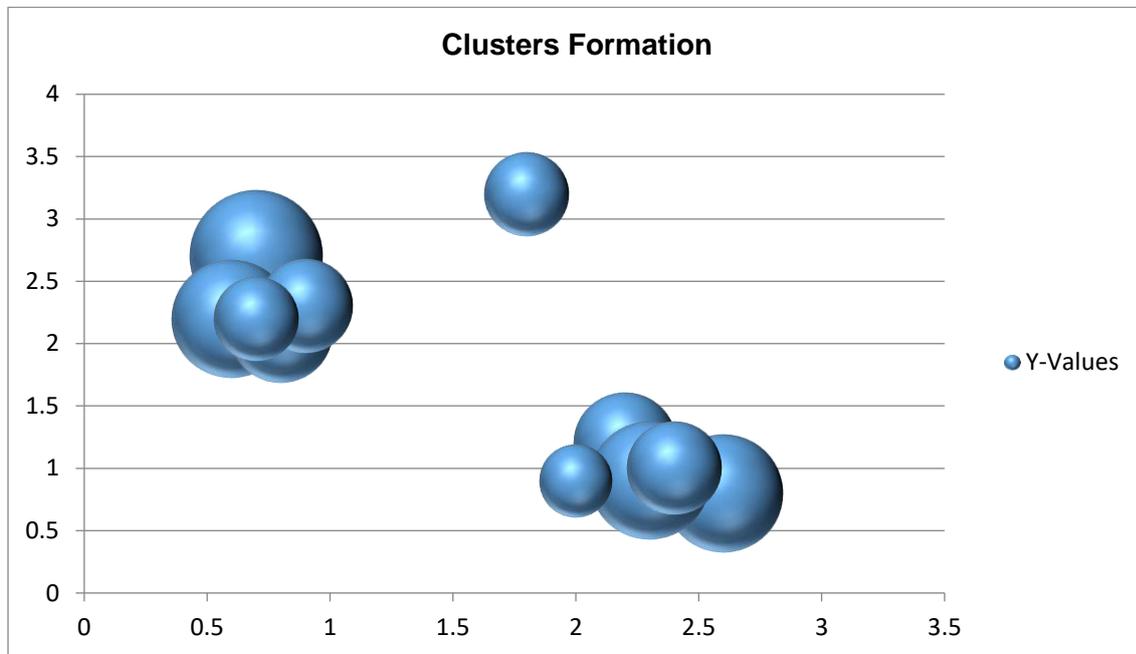
Porter (1998) defined Clusters as the terrestrial absorption of interrelated industries, industry-focused suppliers and supplementary companies in particular fields that contend but also co-operate. There are a number of cluster formations in the developing countries (Informal and organized clusters) (Porter 1998, UNCTAD 1998). For example, informal clusters usually comprise small and micro enterprises or firms whose competitiveness is very low:

- a. Low technology levels;
- b. Low management abilities;
- c. Low level of skills of general workers;
- d. No continuous learning takes place for sustained skills upgrading, and
- e. The low barriers to enter and exit which may lead to growth in the number of industries and other supporting institutions may not, in essence, signify a positive position that is measured by the upgrading of management skills, investment in advanced technology, machinery and equipment improvement in product quality and product differentiation or international exports.

For organised clusters, activities and processes are co-ordinated mainly for the provision of the common or shared infrastructure and other services in a bid to solve common challenges faced by firms subscribing into the common goal of clustering (Ishmael 2008).

The organised clusters are distinguished from informal clusters through the technological advancement, cooperation and networking among cluster members (Schmitz 1999, Mytelka and Farinelli 2000, Smit 2010).

Figure 2.1: Cluster Formation



Source: Author

Figure 2.1 depicts on how clusters are formed and what characterizes their working relationship. The stable vertical connection (along Y-axis) between the manufacturers and clients could ensure that there will be cost bargain in terms of technological advancement, elimination of risk associated with product design, development and marketing (Schmitz and Nadvi 1999, Morris and Einhorn 2008). The horizontal interrelationship between similar industries (X-axis) can produce positive returns (collective efficiencies) in the system of plummeting business costs, embark on the quickening of innovation through problem-solving and increase in market access. The protagonist that is played by government, policymakers and other learning institutions is in the formation and boosting of clusters or networks into large innovation and manufacturing hubs at all spheres of government (Mytelka and Farinelli 2000).

2.2. Objective One: The relationship between the industrial clustering and organisational competitiveness

The government policies and strategies that are developed for regional economic development in order to contribute to industry competitiveness are critical in recognising the actors that are policy and economic decision-makers whose integrity and expertise can be coupled in a bid to enhance world economic performance (Jan Stejskal 2011). It was further noted that the notion of competitive advantage of industry clusters elevates the capabilities of the regions in the generation, acquisition and application of knowledge and information. The scholars and researchers explicitly endorse innovation and competitiveness as key salient issues for regional and global economic development.

2.2.1. The Theories of Trade and Competitiveness

a. National Competitive Advantage - NCA

Porter (1998) was in discontent with the economic theories of trade and developed a new theory referred to as the National Competitive Advantage (NCA). Smith (2014) argued that the theory of national competitive advantage is not new. The theory of absolute advantage by Adam Smith created a limitation in terms of gains from trade (Porter 1998, Smit 2010). Countries that were in favour of this theory had limitations in terms of import or export business (Krugman 1998, Obstfeld 2003).

International competition at the firm level has changed over the last decade because of the changing patterns of world trade, globalisation of the world economy, the impact and emphasis on fourth industrial revolution and rapid dissemination of technology and information, and the rise of the transnational organisation (Smit 2010, Spencer, Vinodrai et al. 2010, De Backer and Miroudot 2014). The changes in the world markets had propelled competition among firms that has renewed intellectual interest in international competitiveness at a country level. The view that national competitive advantage provides a new meaning in respect of the international competitiveness as a country was refuted by many economics scholars expressing a position that Porters theory was mainly supported by management specialists on the issue of international competitiveness at a country level (Obstfeld 2003, Spencer, Vinodrai et al. 2010, Riasi 2015). The aim is not to provide a detailed exposition of the different trade theories but to review the theories as background for the discussion of Porter's (1990a, 1998 and 2000) Diamond Framework, which explains the competitive advantage of nations.

b. Theory of Absolute Advantage - TAA

Krugman and Obstfeld (2003) indicated that the theory of absolute advantage absorbed a notion that a country has to propel its efforts in concentrating on producing specialised commodities which has an absolute advantage over other countries and thereby importing those commodities that are costly to produce. Many theorists viewed the theory of absolute advantage as a zero game. They asserted that a country should produce and export commodities in order to have a positive balance of trade and to be competitive against the rest of the world (Kaplinsky and Morris 1999, Jan Stejskal 2011). They also encouraged the government to enforce strict import controls in order to realise the economic growth. The challenges of the theory of absolute advantage gave advent to the law of comparative advantage where a country is focusing on producing goods that are relatively easier to produce.

According to Krugman (1995b), however, it is imports rather than exports that matter for a country. Exports are important in order to pay for the imports a country needs. According to Adam Smith's (2010) hypothesis, some countries will be excluded from importing and thus from the gains from trade. This paradox that absolute cost advantage leads to specialisation, but that such specialisation may not necessarily lead to gains from trade, gave rise to Ricardo's theory of comparative advantage (Dunning 1993, Altenburg and Meyer-Stamer 1999, Ceglie and Dini 1999). While it is generally accepted that these theories explain inter-industry trade sufficiently, they fail to explain intra-industry trade (Grubel and Lloyd 1975). To explain intra-industry trade, economists put forth a new set of trade theories that relax the assumptions of perfect competition and constant economies of scale. These new trade theories opened up the debate around government intervention as an active policy game changer in order to advance the international competitiveness of a country (Krugman 1998, Ishmael 2008, László 2014). This inconsistency that absolute cost advantage leads to specialisation, but that such specialisation may not necessarily lead to gains from trade, gave rise to Ricardo's theory of comparative advantage (Krugman 2011, Schumacher 2012).

c. Theory of Competitiveness

Another protagonist for this notion, Gabor (2006), further indicated that the theory of competitiveness should be relooked at in many ways as industries at a local level have powers to take a decision regarding their competitiveness and strongly believed that competitiveness (Porter 1998, Gabor 2006, Jan Stejskal 2011):

- a. Encourages Cluster effects;
- b. Encourages Economic Growth and at the same time,
- c. Enhances local economic development.

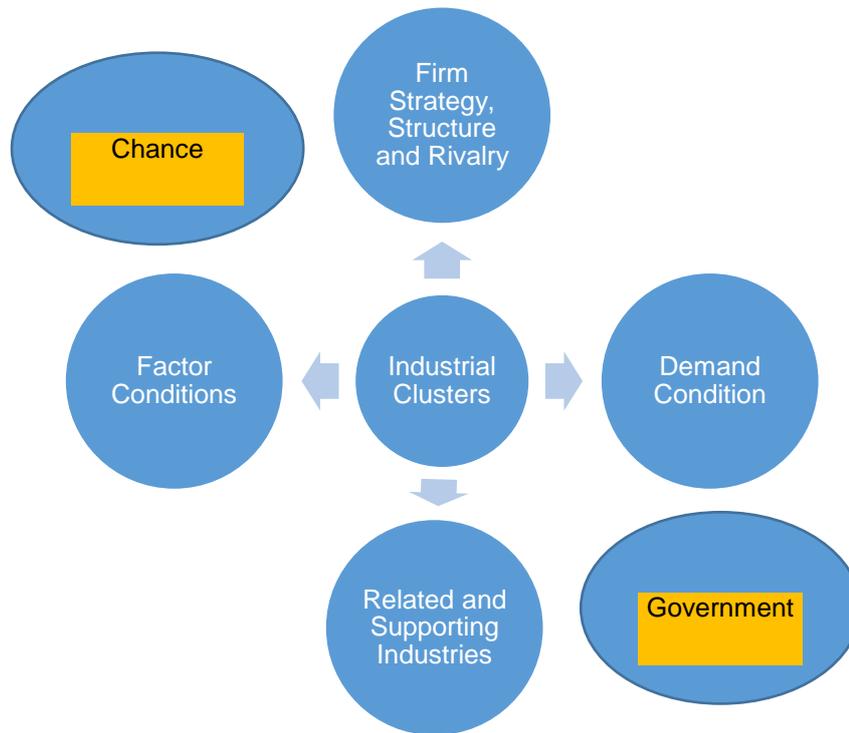
Underscoring above issues, Gabor (2006) defined competitiveness as the aptitude to realize authority and stability in the competition between industries at micro and macroeconomic level. Unfortunately, Krugman (1998) was not in favour of the doctrine of competitiveness. Ioan and Gabriela (2009) defined competitiveness as an approach to each firm, country or sector to produce and supply goods and services within a specific conducive environment. Further competitiveness is an integral economic concept which relies on the natural resources and simulated (government) factors (László 2014).

The government factors encompass the industrial policies where world economies compete against another in the same way as industrial corporations (Ioan and Gabriela 2009). Subsequently, Porter (1990) raised a critical concern that explains why some of the world economies are thriving more than the other. In the quest for clarity, Porter (1990) founded the National Diamond Model that affords the fundamental principles for the determination of the national competitive advantage of a nation (Ioan and Gabriela 2009, Smit 2010). The theory Comparative advantage thus also leads to specialisation, but differs from specialisation based on absolute advantage, in that a country will always import, whether or not it is more or less efficient overall in the production of all goods and services relative to other countries (Schmitz and Nadvi 1999, Schumacher 2012). The question that frequently arises, and that is sometimes the source of confusion with regard to the law of comparative advantage, is how it is possible for a country that is less efficient in the production of all products to export any of these products to another country that is more efficient in the production of all these products (Marshall 2009, Krugman 2011, Ozgen 2011)?

The answer lies in the self-equilibrating nature of the trade balance between countries (Krugman 1998, Gabor 2006, László 2014). This means that in equilibrium, if the input cost is sufficiently lower in one country than another country, the price of the product will be lower in the low input cost country, even if that country is less efficient in the production of the product (Altenburg and Meyer-Stamer 1999, Kaplinsky, Morris et al. 2002, Smit 2010). Any unconventionalities from equilibrium will automatically readjust the exchange rate between the two countries to ensure new trade equilibrium is reached. Ricardo's theory of comparative advantage is based on the labour theory of value (Salvatore 2002). This implies that labour is the only production factor and that it is used in fixed proportions in the production of all products. The theory also assumes that labour is homogeneous (Krugman 2011, Morales Meoqui 2014). These unrealistic assumptions led to the incorporation of opportunity cost into the explanation of the theory of comparative advantage. If the Ricardian theory of comparative advantage is redefined in terms of opportunity cost, then a country will have a comparative advantage in the production of goods and services if such goods and services can be produced at a lower opportunity cost (Schumacher 2012, Riasi 2015). According to Salvatore (2002) the theory of comparative advantage implies that a country will have a comparative cost advantage in the production of those goods and services that can be produced at a lower opportunity cost than in other countries. The mistaken association of Ricardo with this unrealistic assumption is the consequence of the widespread – but inaccurate – in the famous demonstration of the comparative-advantage proposition in the Principles as unitary labour costs, which are assumed to remain constant (Ozgen 2011, Morales Meoqui 2014). The theory on the other hand, assumes that countries already differ before they start trading. Differences between countries are the only reason why trade takes place, and these do not change after nations start trading. According to this logic, advantages are exogenously given before trade takes place and are not influenced by trade. It further controls the theory of comparative advantage while the Smith (2010) logic is rejected or ignored. In the midst of the deliberations by many scholar in respect of the theory of comparative advantage Porters Competitive Advantage is still relevant in today's ever changing business environment in relations to the Diamond Model which has been used in this study (Obstfeld 2003, Krugman 2011, Riasi 2015) .

2.2.2. Porter's Diamond Model

Figure 2.2: Porters Diamond Model



Source: Adapted from Porter 1998

In figure 2.2 (Obstfeld 2003, Markus 2008, Smit 2010) further augmented Porter's Diamond model with government policy and chance (exogenous) which both enhanced the model. The theories confirmed that the determinants of the Porter's diamond model create industry clusters and impact new business ventures (Smit 2010, Ozgen 2011). Although previous research investigated the impact of industry clusters on entrepreneurial ventures early studies did not specifically inspect the relation between each of the determinants (i.e. contexts) of the Porter's diamond model and the opportunity recognition. In fact early studies suggested that when examining the opportunity recognition process efforts need to be made to include the key contextual characteristics in the environment as moderators of opportunities (Short, Ketchen, Shook and Ireland, 2010). Therefore the previous research by many scholars suggested further investigation on the role of each determinant of the Porter's diamond model on opportunity recognition and how it triggers entrepreneurial mindset along the value chain of industrial clusters (Smit 2010, Ozgen 2011).

The analysis of cognitive context that exists behind the Porter's diamond model and how it relates to potential entrepreneurs will help us underpin the opportunity recognition process. We now turn to the determinants of the Porter's diamond model. Porter's (1998) *Competitive Advantage of Nations* deliberated on four-factor endowments. The first side deals with the basic factors that naturally exist in the country such as (Ioan and Gabriela 2009) natural resources, geography positioning, and population. The second part focuses on the advanced factors that are established within a particular country such as (Porter 2000, Morris and Barnes 2007, Smit 2010) investments, information and communication technology, research and development, qualified and professional labour force and quality education.

a. Firms Strategy; Structure and Rivalry

Hill (2007:189) and (Porter 1998) asserted that most of the competitive firms have diverse strategies which are crafted in a bid to create a national competitive advantage. The local rivalry is a worrying factor that compels domestic firms to collaborate as industrial clusters in order to reduce production costs, increase productivity, improve quality, and employ advanced technologies. The cluster concept is increasingly employed by most firms as the driver and strategy that enhances competitiveness (Ishmael 2008, Markus 2008). The structure of the firms or industry organisation plays a significant role in building working relationships vertically or horizontally throughout the industry value chain. This could further maximise the economies of scale and thereby increasing exports. This entails the sharing costs of production inputs, technology spillover and strategically competing in the global arena (Schwab and Sala-i-Martin 2010, Riasi 2015).

Porter (1998) therefore discovered rivalry as the most precarious driver of competitive advantage of a country's firms. He believes that domestic rivalry forces firms to be cost competitive, to improve quality and to be innovative. According to Porter (1998), it is firms that ultimately compete internationally, but it is the international competitiveness of a country that shapes the international competitive advantage of firms (Smit 2010, Udovik 2014). It is this assumption that a country's competitiveness ultimately determines a firm's international competitive advantage that led to the belief that countries, like firms, compete internationally and thus that the international trade engagement of countries is a negative sum game, as it is in the case of firms.

This is in sharp contrast to the general understanding in trade theory that trade is a positive sum game irrespective of the nature of the sources from which such gains from trade are derived (Ozgen 2011, Schumacher 2012, Morales Meoqui 2014, Riasi 2015). Based on the dynamic capabilities the firm structure, strategy and rivalry triggers entrepreneurial mind-set in recognition of opportunities. Dynamic capabilities are firm specific processes, (i.e. product development, strategy, structure) and allow organizations to continuously improve the performance within the firms market position. Dynamic capabilities focus on the creation of firm specific capabilities arising from their organizational structure that link its capabilities to changing circumstances. In a changing environment, firms must continuously improve their capabilities to maintain competitive advantage. Organizations often respond to challenging conditions found in instable environments by adopting an entrepreneurial behaviour through dynamic capabilities. Capabilities are difficult to imitate as they are a function of organization and technology and are built over time in a path dependent process (Spencer, Vinodrai et al. 2010, Staszewska 2010, Schumacher 2012). Based on the dynamic capabilities perspective on the firm structure, strategy and rivalry more entrepreneurs should rely on firm's specific capabilities, such as strategy and structure that a firm has developed and perfected over time in order to discover opportunities for new industry clusters in terms of competitiveness (Weiss 2002, Spencer, Vinodrai et al. 2010, Titze, Brachert et al. 2014).

b. Demand Conditions

According to Porter (1998) demand conditions refer to the home demand for products/services produced in a country. The Porter's model suggests if the local demand for a product or service is larger than foreign markets then local firms put more emphasize developing certain products/services than foreign firms and it creates competitive advantage for the home markets (Smit 2010, Ozgen 2011, Riasi 2015). For instance due to increasing influence of the fourth industrial revolution across the globe industry cluster are moving away from traditional industries towards knowledge based industries. The growing market demand in the IT industry leads industries/firms to shift their focus towards the IT industry and come up with innovative ideas and new ventures in the IT industry (Morris and Barnes 2007, Morris and Einhorn 2008, Ozgen 2011).

The demand conditions play a significant role for local industries in meeting the customer's needs. Hill (2007:188) and (Jan Stejskal 2011) emphasises the need for industries to create and satisfy the demand for goods and services to local customers before venturing into the international markets. If there are an infrequent quantity and quality demanded by customers, this will exact pressures to local industries in improving technologies in order to compete with their counterparts. The Demand Conditions provides industry clusters to network within the value chain if there is a demand for the supply of production inputs. The demand condition will also have a knock-on effect in terms of job creation and retention (Tallman, Jenkins et al. 2004, Udovik 2014). The industry will strive to create and produce new products for both local and international markets and at the same time maintain quality. Smith (2010) argued that Porter, however, focused more on demand differences than on similarities to explain the international competitiveness of countries. According to him, it is not only the size of the home demand that matters, but also the sophistication of home country buyers. It is the composition of home demand that shapes how firms perceive, interpret and respond to buyers' needs. This forces home country firms to continually innovate and upgrade their competitive positions to meet the high standards in terms of product quality, features and service demand (Schwab and Sala-i-Martin 2010, Schumacher 2012). Further, these demand conditions, as explained by Porter, do influence the underlying resource differences between countries and a country's relative location advantages as explained earlier by the new trade theories. The nature of the differences in sources, driven by demand conditions, could be productivity differences, differences in factor endowments or differences in the scale of production (Schumacher 2012, Udovik 2014). The differences in sources, irrespective of the causes, thus ultimately lead to gains from trade. In this respect, Porter's demand conditions enhance our general understanding of location differences rather than invalidate the trade theories as discussed.

c. Related and Supporting Industries

The interrelations and connectedness of industries enhance competitiveness (Porter 1998, Jan Stejskal 2011, Nie and Sun 2015). The geographical locations of industries could attract investments in new technologies where industries within the cluster could share the costs and information. This will benefit the industries in increasing their production and to be competitive both locally and internationally.

Hill (2007:187) pointed out that the supporting or related industries in textile and clothing could benefit in the spillover of technology sharing and be able to meet deadlines and ultimately produce high-quality products. In some instances, competition among the suppliers located within the close proximity could lead to low prices for raw material, increased quality and new product designs. The exodus of employees between related or supporting industries could lead to cross-pollination of knowledge and ideas. The industry workshops and conferences organised for related or supporting industries could enhance the competitiveness of the industries as there will be sharing of ideas on how to position their businesses into the international markets.

According to Ozgen (2011) when local supporting industries are competitive new entrants continue to grow in both related and supportive industries and form clusters. Due to the ease of information flow and transactions between buyers and sellers firms can better come up with cost effective and innovative products. Clusters of related and supporting industries play a significant role in technology transfer and innovation (Staszewska 2010, Pratt and Hutton 2013, Titze, Brachert et al. 2014) and facilitate coordination, efficiency and effectiveness and flexibility (Porter,1990), lower transportation and transaction costs in the production process (Ioan and Gabriela 2009, Ozgen 2011, Riasi 2015). The strength of the related and supporting industries in a region/country enables horizontal and vertical connections within industries (Jan Stejskal 2011, Ivanova, Strand et al. 2016) and facilitates social interaction, interchange and information flow (Garofalo 1993, Enright 2003). Social infrastructure within the value chain of related and supporting industries eases technology and knowledge transfer. It is further encouraged that access to social infrastructure within the industry clusters will encourage thinking open minded and generate novel ideas.

d. Factor Endowment

Factor conditions refer to home country production factors including human, material, knowledge and capital resources and infrastructure (Porter, 1990). Porter (1990) and (Jacobs and De Jong 1992) acknowledged the fact that factor endowment consists of two categories (These factors and conditions will be dealt with in detail in the preceding sections):

Basic conditions

- a. Natural Resources,
- b. Climate,
- c. Location, and
- d. Demographics.

Advanced Factors

- a. Highly educated professionals;
- b. Higher Learning and Research Institutions in high-level disciplines, and
- c. Information and Telecommunication infrastructure (Broadband Infrastructure)

The natural or basic conditions are driven by firms, government institutions and corporates (Jan Stejskal 2011). The industrial clusters enhance competitiveness when there is an abundance of natural resources in the locality such as the supply of raw material within the close proximity.

This could also entice industries to locate next to the geographical area where natural resources are available. Industry clusters could be formed and more suppliers and interconnected industries will join forces in a bid to enhance the competitiveness of the available resources. The advanced factors are significant in enhancing the competitiveness of the industries such as the undertaking of advanced research in developing new products. This process warrants the collaboration and the usage of higher learning institutions and professionals (Kaplinsky, Morris et al. 2002, Ozgen 2011).

Some cluster transactional corporations (CTC's) have ventured into manufacturing related industries and services. The privatisation of the state entities and deregulation of trade and investments has provided an opportunity to other differentiated businesses including outsourcing, foreign acquisitions and joint ventures (Altenburg and Meyer-Stamer 1999, Porter 2000). Therefore, the outcome of the deregulation of trade and investment will lead towards the emergence of multifaceted collaborative clusters. The resource based industries are critical important in contributing towards growing the economy (Ozgen 2011).

Human resources include skilled workforce; material resources include availability of raw materials; knowledge resources include the education level, quality of research; capital resources refer to the availability of assets and social capital (network connections) and infrastructure include both physical and legal regulatory infrastructure and refer to the basic foundation, facilities or services, needed for the functioning of society, such as sewer, transportation, communications and school systems, water and power lines etc. and government policies and programs. Porter suggests that each country or region has certain factor conditions and develop competitive advantages for industries in which these factor conditions are considered optimal. We also think that the extent of factor conditions in a country or region drive opportunity recognition in certain industries triggering entrepreneurial mindset due to the speed of knowledge transfer and access to specific resources. In other words the entrepreneurial behavior is guided in choice of market or industry by the availability of resources in the environment (Morris and Barnes 2007, Smit 2010, Jan Stejskal 2011, Riasi 2015).

Therefore the factor endowment dictates that it should be easier to notice and identify opportunities through information relevant to individuals' existing mental frame (Mytelka and Farinelli 2000, McCann, Arita et al. 2002, Ozgen 2011). In other words knowledge embedded in individual shapes the capacity to create new knowledge. It is further concluded that in industries where the factor conditions are "optimal" entrepreneur's continuous access to particular resources and social capital networks generates certain knowledge framework and prepares entrepreneur's mindset. Thus, entrepreneurs based on their knowledge could have increased ability to "comprehend" and synthesize new information and be alert to exploit the opportunities in that industry.

e. Government Support

The South African government has developed the National Industrial Policy Framework (2008:3). The contestation by the government is that the industrial policy is not a mandate of a particular institution in driving industrialisation in the country but it requires the concerted efforts from all stakeholders including clusters.

The implementation process could be achieved through the four pillars of policies such as:

- (i) Constant and associated macro and regulatory environment;
- (ii) Provision of requisite skills and education that are closely linked with industrial economy;
- (iii) Appropriate, dependable and contemporary infrastructure, and
- (iv) Sufficient provision of various technological systems for economic development.

Therefore the government has a new role to play in cluster development. The encyclopaedic macroeconomic policies are critical even though they are not adequate. The government should provide a basic social contract to its citizens such as education and physical infrastructure (Porter 1998).

Further to the industrial policy, the government should develop competition regulations such as intellectual property laws in order to propel productivity and innovation for the economy to grow. In the Porter Diamond Model, government plays an overarching role in all four-factor conditions. In industrial policies, government develops incentive schemes that are destined to boost the economic growth of the country, in this instance the EMIA scheme, Black Business Industrialists or industrial cluster scheme. At some point, government introduces some restrictions (Protectionism) on investments by foreign industries that will boost local industries.

f. Industrial Clustering against Industrial Policy

The fundamental principle of government intervention is unpretentious. It involves the industrial policy intervention which is the national mandate with a local and international focus. The industrial policy is being crafted in a bid to boost targeted industries with high return on investments (Morris and Barnes 2007, László 2014, Ivanova, Strand et al. 2016). Therefore government should ensure that emerging priority industries (High Tech) should be provided unwavering support until they reach the maturity stage through the government incentive schemes such as Black Industrialist Scheme, BBEE scheme, SASS Scheme, and more. This is to ensure that the process of growth and prosperity of the industrial clusters is seamless (Porter 2000).

On the other hand, industrial clustering coordinates industry activities that are destined to contribute towards economic growth of the particular country. Therefore the industrial clustering concept focuses on the priority issues such as science and technology, education and training, export and investment promotion (Ishmael 2008, Köhler 2014). The geographic location and land availability make it possible for investors to be attracted in investing in a particular location. In addition, the cluster positioning enhances competitiveness and the growth of the industry. As a collective, clusters influence policy position in terms of finding a positive solution in competing with the rest of the world (Tallman, Jenkins et al. 2004, Krugman 2011). Therefore the operational elucidation warrants various components of government to join forces in supporting the cluster initiatives.

2.2.3. Characteristics of Cluster Competitiveness

a. Knowledge spillover

The geographic location of industries has a significant influence in ensuring that related industries continuously interchange ideas and innovations. The vertical and horizontal integration of firms is highly critical in cementing the working relationship between the industries in issues relating to new technologies and opportunities thereof (Ozgen 2011). The knowledge spillover is the trial and error amongst the cluster members. The reality is that when industries come together for a common goal, there is always room for error and improvement. Therefore synergy amongst the firms brings knowledge accumulation process (Caniëls and Romijn 2003).

According to Titze et al (2014:163 – 190) the key elements for industrial clustering for regional production and knowledge generation activities are presented by knowledge based theory of spatial clustering, innovation and models of New Economic Geography. The concept of New Economic Theory illustrates that the clustering of industries is explained by spill overs and the backward and forward linkages. The regional production and knowledge generation activities also reveal the key location in which the knowledge growth is initiated and knowledge disseminates. The underlying parts of the learning economy of industrial clustering is the emphasis on the existence of structural differences and interaction of firms within the value chain.

In this regard the issue of business value chain and knowledge networks are significant for all industries within the value chain in order to collaborate, maximise knowledge and create new business opportunities (Shepard, Jensen et al., Titze, Brachert et al. 2014). It is also acknowledged that there are eminent challenges that affect the global competitiveness (UNCTAD 1998, Russo 1999, Scheel 2002, Udovik 2014):

- a. New and emerging networking and collaborative skills for connecting untrained suppliers, demanding producers and buyers;
- b. The infrastructure mainly the information technology, telecommunication and logistics are crucial in order to provide much needed support to supply chain management and value chain systems;
- c. The new structural changes in government policies where government intervenes in the space as a regulator, technological and the industrial policy facilitator.
- d. New organisational, adjustable, and bendable model to new disruptive and uncertain competitive powers.

Most of these challenges are dealt with by a proper collaboration and sharing appropriate technology, innovation and a diversity of empowerment. Proper collaboration warrants that industrial clusters should have high levels of constant benchmarking and comparison. This encourages firms to produce differentiated products by finding improved techniques and innovation of producing new products. It is not novel that when a firm with a cluster introduces a new product others also follow suit otherwise they risk in giving up competitive edge (McCann, Arita et al. 2002, Meyer-Stamer 2002, Jan Stejskal 2011). Research and development drives and enhance innovation for industrial clusters to grow and succeed and policymakers give priority. Many proponents of industrial clustering have deliberated issues of cause and effect regarding the question on how spatial proximity makes research easier, the part of concentration of specialists expertise and technology spillover that create a context for dynamism. Other scholars zoomed into interconnection between firms, research institutions such as institutions or higher learning (universities) and how changeovers from theory to product development and markets can be integrated (Mytelka and Farinelli 2000, Porter 2000, Köhler 2014).

b. Improved market access

The improvement in market access is considered to be crucial especially for the cluster members since the collaboration of industries will circumvent the marketing gap where prior to the cluster formation industries were secluded from the global markets, fashion trends, and the limited resources to establish a local brand (Schmitz 1999). (Knappe 2003) argued that there are new trade opportunities in fast emergent developing countries especially the African markets. Knappe further pointed out that the well-developed economies such as EU, Japan, USA, and Canada still account 80% of the world markets. The essence of supply and demand of goods and services relies heavily on the country's efficient and effective positioning in those niche markets.

It has to be noted that even though countries and their industries are eagerly striving to be well positioned in those markets, healthy competition both local and international is critical in steering the market efficiency and thus business productivity by producing high quality demanded goods and services in order to satisfy those markets. For goods and services to be traded local and internationally there has to be minimum hurdles. For example, for goods to be exported there has to be minimum risks associated with export tariffs on the foreign direct investments (FDI) (Schmitz 1999, Obstfeld 2003). The economic meltdown that was experienced by world over depicted that the world economies are interconnected to each other and growth depends on open markets. Some economic protagonists viewed the economic protection processes as being counterproductive and restraining trade between economic countries. Therefore market efficiencies also rely on the demand conditions such as consumer positioning and buyer intricacy. The classical example is the US markets which demands more and this could create a competitive advantage for companies that are more creative, innovative and customer oriented (Pickles 1991, Nadvi 1999). The industrial cluster members and new entrants (suppliers) could thrive since there are existing pool of companies to supply and this could lower the transactional costs and risks.

However this is depending on the existing competition among the cluster members which could drive the new entrants out of the markets. At some point, new entrants identify business opportunities by providing specialised products and services which could be advantageous to both supplier and end –user (McCann, Arita et al. 2002, Newlands 2003).

Some financial institutions such as Industrial Development Corporation and Empowerment Fund have developed interest in supporting industrial clusters and they have also set aside specialists understanding specific sectors such as textile and clothing, wood and pulp, agribusiness etc. This tends to open business opportunities of getting access to finance since logic understanding of clustering is not novel to them as financial institutions. Further there is a notion that collective, in depth understanding and knowledge of international markets could provide new entrants with an opportunity to leverage from the existing industrial cluster brand (Kaplinsky 2000, Kaplinsky, Morris et al. 2002, Markus 2008).

c. A specialized and skilled labour pool

The Global Competitiveness Report (2017) identified labour as one of the critical elements of competitiveness in ensuring that the labour is used to its maximum strength and the rewards are accorded for the best performance in their jobs. The cluster concept and competitiveness encourage job rotation and flexibility one economic activity after the other. It is not novel that the economy anywhere in the world cannot generate wealth without labour. According Power and Lundmark (2004), have attested that the availability of the young and upcoming population is a requisite for economic development. The labour mobility is believed to have a significant contribution on the distribution of knowledge amongst the industry members.

The existing theoretical views of tacit knowledge, socially embedded knowledge and social capital are repeatedly imprecise and poorly substantiated wherein there is an existing literature which gives a strategic direction that the less codified and socially endorsed and implanted forms knowledge, capital and network relations have important outcomes for industrial performance and innovative capacity. It is believed that the exchange and flow of information, innovation and spill over occur in the workplace (intra-cluster) rather than in the cosmopolitan street talk. The cross pollination and dissemination of knowledge are often crucial to knowledge building of industrial clusters (Mytelka and Farinelli 2000, Power and Lundmark 2004). The issue of unemployment opportunities in the work environment and the downsizing of employees from formal business environment in some instance leads to self-employment or starting of new business.

The contestation is that the requisite skills into the formal employment might not match with the available job opportunities. Likewise in the industrial clusters the new entrants might not possess the requisite skills to be shared amongst the cluster members thereby becoming a wasted resources in not benefiting other cluster members. At some point the new employees sometimes don't poses skills to operate modern technology. Likewise the new entrants might have a lack of ability to coordinate and continuously improve production in a systematic way based on the inadequate technological skills. In a bid to circumvent this challenge, a new entrant needs to provide continuous training such as apprenticeship through Technical Vocational Educational Training Colleges (TVET) (Enright 2003, Jacobs, Chase et al. 2004).

c. Infrastructure

The availability of office park or space is a critical element that defines the location of economic activity of the industrial cluster. The location of the infrastructure maximises the economies of scale of the industry clusters and ensures the maximisation of profits (Ceglie and Dini 1999, Morris and Barnes 2007). The other element of infrastructure is the efficient transport system which is critical in moving goods from point to the end. The last economic activity is the effective telecommunication network that allows the free flow of information between industries and the rest of the world. The advent of new technology system makes the world of business to grow faster.

Industry clusters may use technology to their favour in growing their business and maximise the working relationship with the international business around the globe (Scheel 2002, Schwab and Sala-i-Martin 2010). It is critical to note that infrastructure plays a critical role in the regional economic development to support public and private projects regarding research and development, innovation and technology upgrading and entrepreneurship. Therefore, the following are the eight key success factors/ issues concerning the infrastructure for the development of industrial clusters in a particular country or region (Scheel 2002):

- a. For industrial clusters to propel, financial resources are of paramount important in order to develop new economic structures in the industrialised countries;
- b. Support programmes designed by government in a bid to grow industrial clusters;

- c. Research and development to support industrial clusters;
- d. Training and development geared towards supporting innovation;
- e. Information and communication technology and entrepreneurship programmes supported by Technology Infrastructure;
- f. Physical infrastructure development that is destined in contributing towards industrialisation of a particular country or region;
- g. Programmes that are designed to engage industry networks; and
- h. Innovation, network management, knowledge infrastructure and virtual knowledge programmes are forming the integral part of industrial clustering.

d. Location

The location and geographical juxtaposition of vertical integration of industries encourage the cross-pollination of ideas and the sharing of cost. Boundaries matter most in defining the connections and harmonisation across the related industries.

This will strengthen the innovation, productivity and the knowledge spill over among the cluster members (Porter 2000). Further, location affords cluster members to the reduced cost of production inputs such as raw material, machinery business services as compared to the traditional vertical business alliances where production inputs have to be imported and this could increase input costs (Porter 2000, Spencer, Vinodrai et al. 2010). The acquisition of production inputs could be possible if there is non-existence of local suppliers. This could further encourage local investors to enter the market as a potential supplier. The element of working relationship and cooperation amongst the cluster members is critical. Trust permeates cluster members to make a commitment in their respective areas. The trustworthy and individualism amongst the members is at some point unavoidable. There are free-riders who take an opportunity at the expense of other cluster members. This calls for honesty, integrity and credibility amongst cluster members (Felzensztein and Gimmon 2009).

e. Production and Production efficiency

Clusters increase productivity through the possibility of having access to specialized inputs (including human capital), information, and institutions. Further industrial clusters improve productivity through the supply and demand of goods. Clusters within the value chain provide complementary services in a bid to increase and improve productivity.

The interconnectedness of the industries within the value chain creates an opportunity for kereitsus to be formed (Belderbos and Carree 2002). This perpetuates continuous improvement in terms of the overall quality and lead times (Porter 2000). For example, if there is a demand to align with the ISO 15000 standards by all companies, it is easy for industries within the value chain of the cluster to adapt and change in order to stay relevant for continuous supply (Morris and Dunne 2004, De Backer and Miroudot 2014).

The presence of related industries also offers various service opportunities within the vicinity of the clusters such as the supply of fabrics to the cut make and trim manufacturer. In essence, this reduces the risk of ordering or supplying wrong material and the lead times taken to rectify an order are reduced. This maximises the economies of scales when production occurs within the location of the industrial clusters (Jacobs, Chase et al. 2004, Heizer 2016). When industries are geographically co-located within same vicinity with their suppliers, this tends to reduce the costs of doing business and thereby maximising the economies of scale. The communication between cluster members in respect of supply and demand is improved. The issues of technical support and customer care or after sales service are cheaper and more reachable. The mutual understanding and respect in terms of business transactions are strengthened in order to avoid reputational risk. Productivity is increase within the cluster members as a result of good working relations, specialist information sharing which make easy for such information to be transferrable (Gander and Rieple 2004, Felzensztein and Gimmon 2009). The availability of specialised skills pool plays a significant role in lowering the costs of recruitment. Therefore the contribution in investing in skills training has got ripple effect on productivity more especially when employees move from one firm to another.

The industrial cluster also encourages co-operation in respect to activities such as integrated market access programmes, participation to international trade exhibitions and pushing policy development. Government incentives and private investment also encourage research and development through the establishment of the laboratory testing and state of art facilities for training (Garofalo 1993, Hill and Brennan 2000, Heizer 2016).

f. Economies of Scale

The cluster of economies is established from the related industries within a particular geographic area with common shared activities such as technical know-how; specialised labour pools; reduced costs of buying raw material. These benefits are accrued through the economies of scale shared by all industries within the cluster (Tallman, Jenkins et al. 2004). Table 2.1 indicates various types of economies of scales and how they are interconnected with the Porters Diamond Model. Each segment of Porters Diamond Model relates to a particular type of economies of scale (Cho, Moon et al. 2008, Krugman 2011).

Cho, Moon et al. (2008) asserted that Porter's single diamond model was mainly designed to explain the sources of national competitiveness possessed by the economies of advanced nations, the model was limited in its applicability when explaining the levels and dynamic changes of economies in less developed or developing countries. The human factors in the nine-factor model drive the national economy forward by creating, motivating, and controlling the four physical factors in Porter's diamond model and, therefore, play an important role in explaining national competitiveness.

Table 2.1: Type of Economies of Scale

Types of Economies of Scale	Example
Production Economies of Scale	<ul style="list-style-type: none"> ✓ Computer aided production could easily replace labour absorption production; ✓ Mass production reduces cost of production; and ✓ Bulk transportation reduces cost
Procurement and Marketing Economies of Scale	<ul style="list-style-type: none"> ✓ Bulk procurement and supply chain; ✓ Collective advertisement increases marketing opportunity and reduces costs of advertising; and ✓ Specialists reduce costs of doing business
Finance Economies of Scale	<ul style="list-style-type: none"> ✓ Collective organisations have easy access to finance and better lending rate; ✓ Risks are spread amongst the cluster members, and ✓ Administration and management costs are spread amongst the cluster members
Managerial Economies of Scale	<ul style="list-style-type: none"> ✓ Specialised management could increase efficiency and thereby decreasing administration costs
Risk Bearing Economies of Scale	<ul style="list-style-type: none"> ✓ Cluster member members are more likely to take risks in expanding or increasing production as risk is shared amongst members

Adapted from: Singh (2006)

g. Lead Times

Lead times are critical in ensuring the continuous improvement in the situations where supply chain flexibility should be established and implemented through advanced lead time optimization capabilities (Yu, Chang et al. 2012, Heizer 2016). The lead time optimization provides an advanced opportunity to the industrial cluster to curtail mass production and thereby reducing the need to invest the limited resources into finished products (Jacobs, Chase et al. 2004, Gorynia, Jankowska et al. 2007). Lead time optimization capabilities assist industries to devise new stratagems to delay production and logistic costs. This warranted the trendsetters to be risk-averse in terms of inventories and means which are hedged rather than committed (Jacobs and De Jong 1992, Porter 2000).

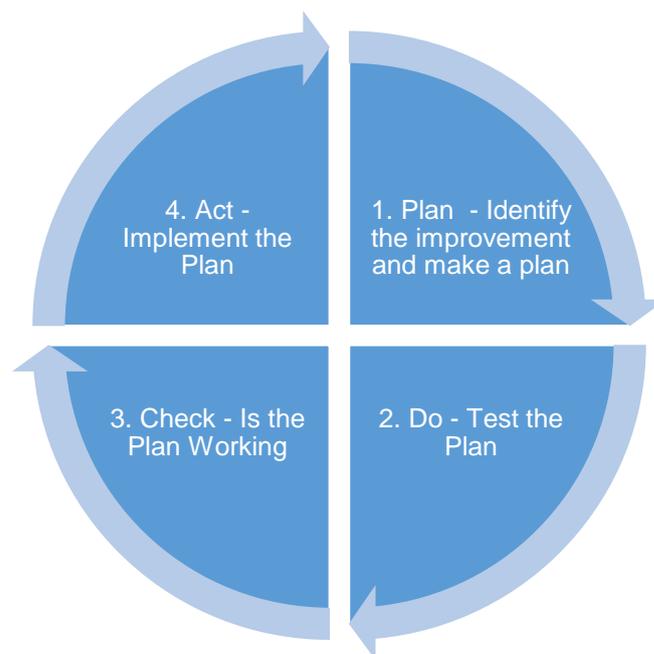
The following is the summary of the lead time optimization:

- Curtail the lead times from weeks to days;
- Reduce mass production and associated limited costs;
- Improvement of forecast to better replenishment of new products;
- Reduce stock losses and improved sales, and
- Improved customer care in terms of meeting real demands and just in time.

h. Continuous Improvement (Kaizen)

Kaizen is an important component of industrial Clusters in order to maintain their business to be competitive and to maximise the economies of scale (Jacobs and De Jong 1992, Porter 1998, Guerrieri and Pietrobelli 2004). Chase, Jacobs and Acquilano (2004:280) indicated that continuous improvement warrants the perpetual enhancement of machinery, production inputs, labour and total quality management (TQM). In this instance, the TQM involves the investment in both human capital and time. It also requires the continuous improvement plan that includes labour, machinery, service providers of materials and proper production procedures. The end results of the continuous improvement are the seamless processes (Bessant, Kaplinsky et al. 2003, Jacobs, Chase et al. 2004). The following is the Continuous Improvement model:

Figure 2.3: The vision of Continuous Improvement



Source: Adapted from Heizer and Render (2006:168)

Figure 2.3 depicts the on-going processes of the continuous process. In the heart of the Plan, Do, Check, Model (PDCA), Total Quality Management (TQM), Kaizen, or Zero defects lies the operations manager who plays a critical role in implementing the continuous improvement (Heizer and Render , Jacobs, Chase et al. 2004).

i. Just in Time

The Just in Time (JIT) method focuses on eliminating wasted time during the production process and thereby improving quality (Heizer and Render , Sugimori, Kusunoki et al. 1977). The JIT justifies the process of acquiring information about the product, time and amount of goods required. Therefore production scheduling takes place which warrants various units to produce specific components (Kaplinsky, Morris et al. 2002, Jacobs, Chase et al. 2004). Secondly, the JIT requires that the production line only produces the required amount of goods requested. No extra amounts of goods are produced. This is to avoid stock surplus. Heizer and Reinder (2006:201) point out that the notion of the JIT is critical in solving problems.

Benefits of Just-In-Time (Barnes, Bessant et al. 2001, Morris and Einhorn 2008)

- (i) Limited costs of producing;
- (ii) Good quality products produced;
- (iii) Efficiency in delivering quality product, and
- (iv) Increased research and development which lead to flexibility and innovation.

Figure 2.4: Pillars of Competitiveness



Source: (Schwab and Sala-i-Martin 2010)

Based on the economic theory of development, the economies of the world are driven by factor endowment (Porter 1998, Ishmael 2008, Schwab and Sala-i-Martin 2010). This is largely drawn from unskilled labour and natural resources. Industry clusters become competitive based on the product quality and price (Enright 2003). The first quadrant depicts that development staggers competitiveness of the basic requirements such as infrastructure, macroeconomic environment as well as the healthy workforce. In effect, competitiveness drives productivity and growth (Jacobs and De Jong 1992, Jacobs, Chase et al. 2004). Once a country realises economic growth then it becomes efficiency driven. This entails that a country will be able to increase production and product quality as the labour force becomes healthy (Pickles 1991, Jacobs, Chase et al. 2004). In this instance, competitiveness is driven by efficiency enhancers such as higher education and training, financial market development, global market access as well as technological advances (Basant 2002, Bessant, Kaplinsky et al. 2003). As a country progresses in terms of economic growth, this means that innovation and technological advancement are now driving the economy (Mytelka and Farinelli 2000). In a nutshell, at this stage, a country is now well positioned in terms of competing with the rest of the world. This becomes an opportune time for local industries to take advantage by producing new products based on the innovation, business sophistication and technological advancement (Scheel 2002). Once a country is equipped with the necessary tools to compete with the outside world, industries enter into a global space by engaging with their international counterparts (Kaplinsky and Morris 1999). In most cases, multinational companies and conglomerates spread their wings across the borders in a bid to increase their market share globally (Köhler 2014, László 2014). It is in this regard that global value chains are increasingly employed especially in the foreign direct investment with a view of spreading the gain (Humphrey 2001).

j. Cluster Value Chains

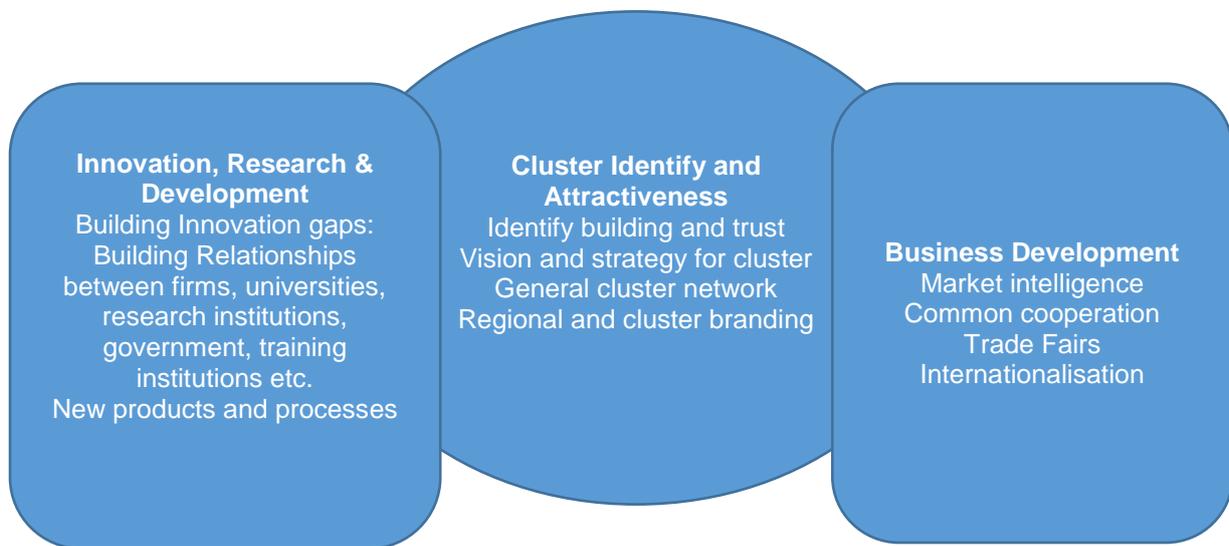
For industrial clusters to grow and succeed, it is critically important to work together in order to benefit from complementary competencies with the same industry value chain. In this instance, horizontal cluster dimension or companies indicating similar serving competencies, which are located on the same proximity often complement each other in terms of mutual learning and motivation.

Scheel (2002) pointed out that the parallel interaction along the value chain yield better productivity in terms of sharing of knowledge and skills. The role of the global pipelines with the value chain could minimise risks of lock in effects within the local cycles of proficiencies (Titze, Brachert et al. 2014). Titze, Brachert et al. (2014) distinguished business operating within the value chain and knowledge networks and clarified the significant difference between the players operating and the level of interactions within these structures. The identification of the vertical linkages through input and output production flows is geared towards indicating the potential linkages within the industry cluster value chain in a particular region (Schmitz and Nadvi 1999). The value chain industry clusters shows the interconnectedness and co-location of industrial sectors through the input – output production framework. Humphrey (2001) indicated that industries which are geographically located in a same area, specialising and linked vertically by value chain tend to benefit from complementary offerings. In the same breath, industry clusters within the horizontal value chain tend to indicate similar or functional competencies which lead to perceptive learning and sharing of information and skills (schimitz 1999, Tallman, Jenkins et al. 2004).

k. The role of cluster organisations

There are number of clusters which were established as informal business networks but as time evolved they expanded their opportunities by seeking to participate into the mainstream economy. It is well know that industrial clustering require a level of formalised business acumen in order to be able to mobilise resources, provide wisdom and accountability represent the interest of cluster members in various platforms.

Figure 2.5: Roles played by cluster organisations



Source: Gwen-Evans (2013)

Figure 2.5 indicates that at a strategic level, industrial cluster have to encompass the participation of stakeholders who are visionary from private sector point of view setting strategic goal and objective for industrial clusters to benefit. Therefore industrial clusters often take calculated risks in sources different forms of capital with various options such as venture capital, mezzanine funding or grant funding. Gwen-Evans (2013) further pointed out that innovation, research and development is critical in the 21st century as the Fourth Industrial Revolution dictates how business should be conducted. The integral part of this is the role played by tertiary institutions, government and other research institutions (Porter 1998, Ozgen 2011, László 2014). According to Albu and Bell (1997) asserted that research on clusters begun to give unequivocal attention to the "technological" aspects of dynamism. Many scholars have turned at least some of their focus to questions about the rates and sources of change in the designs and quality levels of the products produced by clusters and in the characteristics of the materials, processes and organizational arrangements used to produce and market them. Growing interest in these aspects of technological change does not mean however that there is general agreement about the importance of the technological dimension of cluster dynamism.

Nor is there any consensus around either the key issues to explore or the conceptual basis for any such exploration. The current situation is reminiscent of a very similar phase of transition in the closely related field of research on technological change and dynamic competitiveness in the large-scale sector of industry in developing countries (Porter 1998, Mytelka and Farinelli 2000). Many of the uncertainties, limitations and difficulties currently confronting research on the technological dynamism of clustered industrial production were evident in some years back in what was then an emerging field of research on technological change and learning in individual large-scale enterprises in developing countries. Research since then built up a body of understanding which fundamentally altered the previously dominant perspective on technological change and industrialization (Mytelka and Farinelli 2000, Fowler and Kleit 2014, Köhler 2014).

The today's transformations represent not merely a prolongation of the Third Industrial Revolution but rather the arrival of a Fourth and hostile interference of the world changes which includes the velocity, scope and systems impact (Schwab and Sala-i-Martin 2010, Schwab 2017). The speed of current breakthroughs has no historical precedent. When compared with previous industrial revolutions, the Fourth is evolving at an exponential rather than a linear pace. Moreover, it is disrupting almost every industry in every country. And the breadth and depth of these changes herald the transformation of entire systems of production, management, and governance

The business and marketing intelligence is one of the elements that triggers production. This is novel in many businesses that without sustainable markets there will be no business to run (Felzensztein and Gimmon 2009, Fowler and Kleit 2014). The demand condition of products or services are determined by a smart intelligence information gathered from various sources including the competitors (Porter 1998, Schwab 2017).

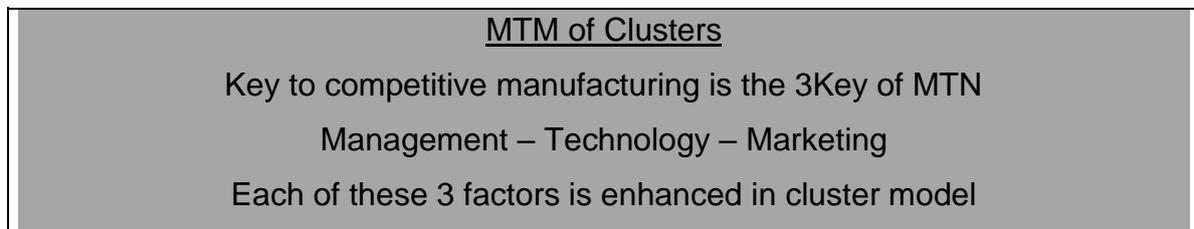
2.2.4. The importance of industrial clustering to the international competitiveness of developing and changing economic communities

As many scholars have attested to theories and definition of industrial clustering, Porter (1999) and Marshall (2009) eloquently described clustering as an industrial sensation that is commonly found in a particular country and sectors.

This industrial phenomenon is understood to be located across the world in developed and developing economies. Singh (2006) also attested that emerging and well established industries located in the same area tend to maximise their potential by clustering and operate together for sound and economic benefits. The following are the competitive advantage derived by emerging industries located in close proximity:

- ✓ The supply of raw material inputs are closer to their business operation;
- ✓ The availability of business development services suitable for business operation;
- ✓ There are number of customer attracted into the same vicinity to do business; and
- ✓ There is abundance of supply of requisite skills.

Figure 2.6: MTM of Clusters



Source: Singh 2006

It is therefore critical to note that for each cluster to grow and succeed external economies are important as the contributors of passive benefit that arise from the geographic concentration of producers.

The industrial cluster export development strategy sets a roadmap for mass customisation of interventions and provisioning of services (Schwab and Sala-i-Martin 2010). Such a road map focusses on the empowerment of the user industry and ensures better cost effectiveness, utility, ownership and endure of the initiatives (McCormick 1999, Morris and Einhorn 2008).

The departure point for industrial clusters as a tool for regional economic development is a prevailing framework and set of apparatus to assist to define regional economic development strategies. Singh (2006) emphasised that Industrial clustering enhances competitiveness of the local economic environment thereby creating relationships and externalities that particularly benefit export related industries.

The benchmarking of the industrial clustering is drawn from different world economies including United States (e.g. Silicon Valley in California; Research Triangle North Carolina; etc.) and other economic development regions such as India, Singapore, China, New Zealand, Australia, Malaysia etc. These countries have portrayed that solid structures of industrial clusters are competitive and sustainable within their particular region. Industrial clusters in these region have continuously improved competitiveness, created new and sustainable job, attracted investor confidence, increased business retention and expansion within the boundaries and proximity of the industrial clusters (Russo 1999, Porter 2000, Power 2008). The issue of regional economic development has prevailed in many countries and one of the key attributes of the regional industrialisation is the industrial clustering. The classical example is the geographical location of industries in a close proximity sharing experiences, knowledge and complimenting each other in respect of the products or services (Porter 1998, Schmitz and Nadvi 1999, Tallman, Jenkins et al. 2004, Smit 2010). These cluster are also referred to natural or organic clusters. They have developed opportunities along the value chains and boundaries of the industrial clusters. At some point these natural or organic cluster have certain limitation in respect of growth and containing the increase in demand for new business development and the non-availability of requisite land and infrastructure within the existing location (Morris and Barnes 2007). Therefore infrastructure provision is critical in ensuring the expansion and growth of industrial clusters in respect of exports and optimisation of value chain opportunities. The classical case was the Indian textile and clothing cluster which indicated that the natural cluster's location could be expanded into a new business development area with additional clusters that could enhance both productivity and competitiveness (Ceglie and Dini 1999, Schmitz and Nadvi 1999, Morris and Barnes 2007).

The industrial clustering also provide a conducive platform for new entrants to establish themselves and enhancing the interaction between the research and its solicitation. This will propel and encourage innovation as well as quick adaptation and the propagation of technology to cluster organisations (Albu 1997, Porter 2000). The regional economic development also encourages industrial clusters to be co-ordinated and make informed inputs into policy imperatives, thereby increase their opportunities of effective outcomes, influencing government to provide support and accessing incentives and services (Morris and Einhorn 2008, Ozgen 2011).

2.3. Conclusion

The critiques of Porter attested that Porter's Competitive Advantage addressed the business administration not the economics of business. Smith (2014) argued that the theory of national competitive advantage is not new. The theory of absolute advantage by Adam Smith created a limitation in terms of gains from trade (Porter 1998, Smit 2010). They further stated that Porters Diamond Model focused on business management and competitiveness of the industries (Porter 1998, Smit 2010, Ozgen 2011, Fowler and Kleit 2014, Riasi 2015). Porter (1998) emphasised that each country or region has certain factor conditions and develop competitive advantages for industries in which these factor conditions are considered optimal. The ensuing chapter will focus on the context of the study which is addressed by second and third research objectives

Chapter 3

Contextualisation of Industrial Clusters

3. Introduction

The previous chapter narrated the theoretical framework in relations to Porters Diamond model and the famous concept of Competitive Advantage. This chapter focuses on all five industrial clusters that are under review. Each cluster was interrogated in terms of its demand conditions, competitiveness, industry structure and challenges which is in relation to the theoretical framework employed in this study. It is critical to mention that these clusters are operational; autonomous from each other and are partly funded by the Department of Economic, Development, Tourism and Environmental Affairs (EDTEA) and eThekweni Municipality.

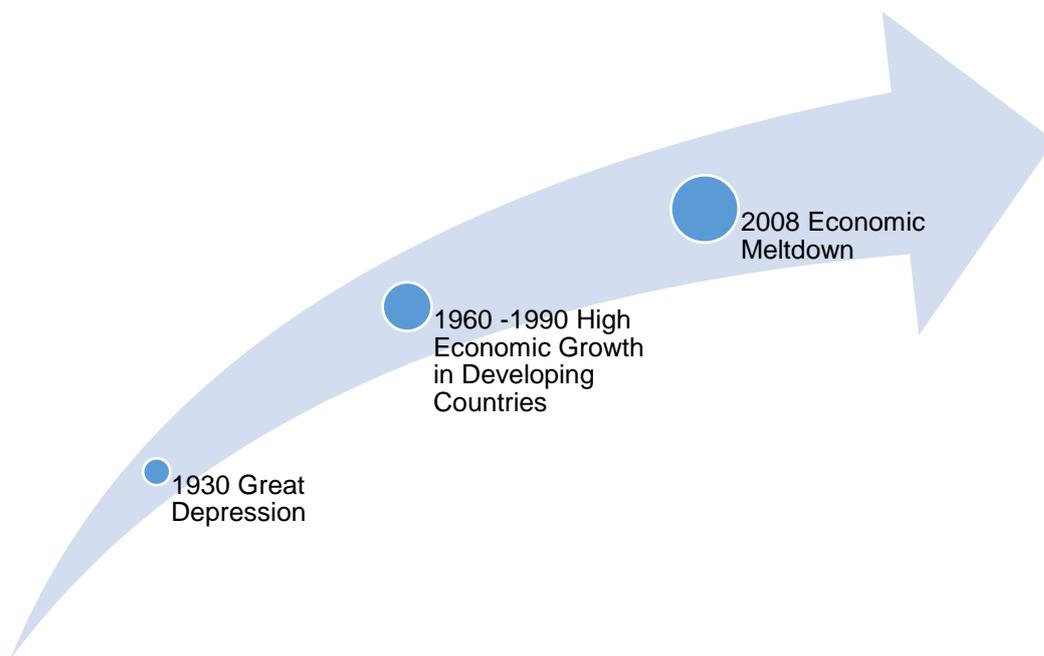
3.1. Objective two: The Importance and Impact of Industrial Clusters in industrialising the KZN province

3.1.1. The emergence of industrialisation and policy shift in South Africa

The concept of industrial clustering is widely used as a tool to enhance industrialization of specific sectors or industries (Dunning 1993, Ozgen 2011, Fowler and Kleit 2014). The porosity of similar or related industries could maximise the economies of scale in respect of collective use of advanced technologies, taking advantage of the pool of skilled and specialised labour and easy access to the local service providers of specialised raw material which could lead to rapid growth of the industrial clusters (Schmitz and Nadvi 1999). To better understand the importance of industrial clustering and the comparison of the embryonic and advanced stages of industrialization two things need to take place. First there is a need for the mobilization of local resources (human and financial). In this instance, incipient industries may come together focusing on certain stages of production rather than bearing the cost of investing in the whole production operation (Porter 1998, Weiss 2002, Tallman, Jenkins et al. 2004). For the automotive suppliers, they only concentrate on the supply of the specific components thus complementing other industries along the value chain (Caniëls and Romijn 2003). Lastly, industrial clustering brings specialised enterprises together and rarely attracts industries with large capitals that are prepared to take a huge risk.

Emerging firms within the cluster have great possibilities to surpass due to taking calculated risks, a division of labour (focusing on specific production capabilities) and it provides a significant growth in calculated risks. Industrial clusters realize industrial growth through small capital injection, skills and business acumen associated with international markets and trade connections (Kaplinsky, Morris et al. 2002, Ishmael 2008).

Figure 3.1: The evolution of Industrialisation



Source: Author

Figure 3.1 depict the evolution of industrialisation and its impact in the world economies. The 1930 great depression affected many countries' economies. The great depression had numbers of economic shocks such as the decline in employment, productivity, lack of infrastructure, trade, fiscal policy, technology and monetary shocks. The neoclassical framework looked at the decline and recovery of the economies post the 1930 depression (Cole and Ohanian 2001). The theory suggested that there was a sharp increase during 1934 in employment and production. This recovery and relatively high growth rate progressed to the 1960s where the world economy experienced a boom.

This was largely experienced in a high rate of employment and the growth rate in global trade. The high growth rate was cut off in the mid- 70s after the first oil price shock which led to the severe recession. In the mid-1980s and the preceding years of the twentieth century, the world saw exponential growth in capital inflows and outflows. The booming of the world economies had a significant impact in the developing countries which was due to the export demands. The export of manufactured goods expanded exponentially to an average of 13% yearly and the capital outflows to these countries increased substantially (Cole and Ohanian 2001, Weiss 2002). In the last stages of the 20th century, industrialization of the developing countries was more aggressive with the growth rate of 5 times faster than the GDP of the 19th century Industrial Revolution (Baldwin 2006).

The South African economy changed drastically after 1994. The advent of new policies such as Reconstruction and Development Programme (RDP) in 1995 was critical in dealing with the socio-economic issues and re-enforcing the reconstruction and development for all South Africans. Unfortunately, the policy focused on the post-apartheid and political issues such as mobilizing all South African citizens in exterminating oppression and building non-racial and a non-sexist democratic country. It did not deal with the issues of economic transformation. When the RDP (1995) policy failed to address the issues of economic development, in 1996 the government of national unity developed the Growth Employment and Redistribution policy which focused on the macroeconomic policy framework. The GEAR (1996) was designed to concentrate on enhancing economic growth, reducing the trade deficit, create much-needed jobs, dealing with the deregulation of trade and capital flows. The GEAR (1996) policy in earnest met most of its targets such as the fiscal deficit, inflation, macroeconomic stability, credit ratings and public finance management improved, tightening of the monetary policy and reduction in government expenditure and the slight improvement in the GDP growth rate from negative to a positive figure. Not everything was hunky-dory because the Congress of South African Trade Union (COSATU) profusely objected to GEAR policy stating that it was not attracting enough investments to contribute to the eradication of joblessness and distribution of wealth. Its approach was neo-liberal. In essence, the COSATU contestation was that the growth rate was sluggish and as a result, the GEAR policy was therefore replaced by Accelerated Shared Growth Initiative of South Africa (ASGISA 2004).

The ASGISA (2004) anticipated that by 2010 poverty reduction would be realized, halving of unemployment by 2014 from 28% in 2004 to 14%. Unfortunately, ASGISA did not have a significant impact on the economy and its target was not achieved. In 2010, New Growth Path (2010) was introduced. The New Growth Path (NGP) realized that there were extreme situations in the structural unemployment, poverty, oppression of millions of workers as well as inequality.

The NGP (2010) focused on five (5) job drivers in a bid to enhance competitiveness:

- a. Infrastructure Development;
- b. Main Economic Sectors;
- c. Seizing the new economic potential;
- d. Investing in Social capital and public services, and
- e. Spatial Development.

The South African government remained resilient in forging working relations with all stakeholders and social partners such as the union federations, businesses and civil society in creating decent work, reducing inequality and dealing with poverty. The NGP was endorsed by the government in 2009 just at the time where there was a global economic meltdown. In the figure above it is evident that the world economy struggled in 2008 and most countries are still battling to come out of the global crisis. Most of the industries halted and unemployment continued to tussle in most of the emerging economies. The NGP ensured that the National Industrial Policy Framework and its implementation plan, Industrial Policy Action Plan, come into play as pillars to industrialize the South African economy. The heartbeat of realizing the economic potential of the NGP depended on the execution and the availability of human and monetary capital. The global indication, especially from the newly industrialized economies, depicts that no country has ever been industrialized without industrial policies (Cole and Ohanian 2001). The main programmes contained in the Industrial Policy Action Plan were rural development, agriculture, infrastructure development, science and technology, labour, mining and beneficiation, manufacturing, tourism, social development, research, and development as well as education and skills.

Government has ensured that the international risks associated with the economic meltdown had minimum impact on local industries more especially on the landscape of employment. But also bearing in mind with the opportunities in the innovation and technology which could provide the domestic economy (IPAP 2007). It is therefore critical for government to put a concerted effort in order to minimize risks associated with the technology disruptions which support labour absorption manufacturing in other sectors within the value chain of the economy. In the midst of the strong structural policy reforms, South Africa continued to experience the deep rooted challenges of the past which obstinately was difficult to resolve. The sluggish growth rate in the African continent has impacted negatively in the growth and development of the South African more especially on exporting key sectors. In this instance South Africa plays in integral part in the continental trade and regional industrialisation. Therefore the advent of New Growth Path was critical in unlocking the challenged encountered by the NIPF (2007) as well as its implementation plan (IPAP). Though the New Growth Path made formidable strides in achieving its goals the plan was for short-term and it was evident that more concerted efforts were needed in order to achieve the set targets.

In 2013 the National Development Plan was established as a long-term (vision 2030) socio-economic development roadmap by the South African government. It was greatly debated that the South African economy was facing some key challenges in boosting and growing the economy. Therefore a robust and radical economic transformation approach was required to forge the inclusive growth and development.

The vision 2030 of the NDP (2013) is threefold:

- a. Eradication of poverty;
- b. Reducing inequality, and
- c. Dealing with unemployment.

From the above summary, it was evident that the industrial policies had significant contribution in the growth and development of the industries in South Africa.

The following is the summary of the achievements of the industrial policies:

- i. There has been a solid inter-governmental policy and programmes alignment that are well crafted and researched both qualitatively and quantitatively;
- ii. There has been a close working relationship between government and private sector with specific interventions destined to grow the economy;
- iii. There were solid programmes and intervention that were developed such as automotive sector, textile and clothing, leather and footwear business processing and outsources wood and wood products etc.; and
- iv. The strengthening of extended support to state owned entities in ensuring that they deliver according to expectation and align with government priorities.

In 2015/2016 the dti developed an incentive policy scheme called **Black Industrialists Scheme** (BIS 2015). The heartbeat of the policy is to provide and leverage support and unlock the industrial opportunities that occurs in the previously owned companies that have businesses within South African boundaries. The scheme has well defined boundaries, financial and non-financial interventions as depicted in the Industrial Policy Action Plan (IPAP 2007) and other government imperatives and prescripts. The following are strategic objectives of the black industrialists' policy scheme:

- i. Fast-tracking of qualitative and quantitative increase and taking part of black industrialists in the mainstream economy, certain sectors, vertical and horizontal linkages within the value chains as defined by their contribution to growth, investment, exports and employment; and
- ii. The development of numerous and diverse conduits and instruments for black industrialists to participate to the mainstream of the targeted industrial sectors within the value chain.

Therefore, the greater impetus of the black industrialist policy scheme (BIS 2015) is to promote and develop industrialisation, sustainable economic growth and transformation through the support of black owned business enterprises that are in the manufacturing sector and other related services linked to manufacturing value chain.

There are fourteen focus areas for the black industrialists' scheme:

- a. Mineral beneficiation;
- b. Oil and gas;
- c. Blue/ocean economy including vessel building and repair;
- d. Clean energy and technology;
- e. Aerospace, rail and automotive sector;
- f. Infrastructure development for industrialisation;
- g. Information communication technology and electronics (ICT&E);
- h. Agro-processing;
- i. Leather, footwear, textile and clothing;
- j. Paper, pulp and furniture;
- k. Chemicals, Pharmaceuticals and plastics;
- l. Designated industries to increase local content; and
- m. Manufacturing trade and logistic related sectors.

The following are benefits associated with the black industrialists' scheme:

The BIS provides a cost sharing grant ranging from 30% to 50% to approved businesses to a maximum of R50 million. The amount of grant allocation depend on the level of black ownership and control, the economic benefits on the project and value of a project. The BIS (2015) as mentioned above provides support on a cost sharing basis towards:

- a. Capital Investment costs;
- b. Feasibility studies towards the development of a bankable business plan to a maximum of 3% projected investment costs;
- c. Post investment support (maximum of R500 000); and
- d. Business development services (maximum of R2 million)

In 2005, the KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs established the KZN Industrial Development Strategy (2005) which emanated from the national policies and strategies such as the National Industrial Policy Framework, Accelerated Shared Growth Initiative, and Industrial Policy Action Plan.

The KIDS (2005) identified the following key priority sectors of the KZN economy:

- a. High-value agriculture, agro and food processing;
- b. Clothing and Textile;
- c. Information and Communication Technology and Electronics (ICTE);
- d. Creative Industries (Film, Music, and Craft);
- e. Wood and Wood Products, and
- f. Logistics and Transport (Including Maritime).

The following were the reasons of prioritizing the above sectors (KIDS 2005):

- a. To have a growth potential, value-add and to be competitive on a global scale;
- b. To be proficient in implementing sustainable local economic development programmes;
- c. To be labour-intensive and thereby supporting the notion of creating jobs, contributing to the reduction of poverty and inequality, and
- d. To contribute to the GDP of the province thereby increasing exports and manufacturing sectors.

It should be noted that the Kwazulu-Natal is the second largest economy in the country after Gauteng province. The KZN province is the also the second largest manufacturing sector which is also geared for exports which is estimated to a third of South Africa's manufactured exports.

As part of industrialising the province, the Department of Economic Development Tourism and Environmental Affairs developed various programmes emanating from priority sectors such as Industrial Clustering and of late the Industrial Economic Hubs and special economic zones which served as special purpose vehicle in implementing government aspirations.

3.1.2. The Guiding objectives of Clustering Industrial Entities

First and foremost, the industrial clustering concept signifies much more than a simple physical agglomeration of homogeneous firms operating independently (DTI 2014). Companies in industrial clusters tend to specialise in carrying out particular processes or stages in the production and distribution channel.

For example, in the value chain of the furniture manufacturing cluster, some firms may process and supply the rough timber, others may saw and plane the timber to standard sizes, others may focus on the detailed joinery and assembly of furniture, while a different group of firms may be responsible for surface finishing and final marketing (Humphrey 2001, Köhler 2014, Heizer 2016). Along these lines, the DTI (2014) has developed guidelines for the industrial clusters in South Africa. The initiative was mooted by the number of clusters that were established across the country and there were no guiding principles in supporting these good intentions. According to DTI (2014) guidelines, the following are some of the objectives of the cluster development programme (CDP) which is aimed to enhance the competitiveness of enterprises within the cluster (Porter 2000, Farole and Akinci 2011):

- a. To build competitiveness of local companies to improve manufacturing share in local market aggregate demand;
- b. To enhance export readiness, competitiveness intelligence and scaling up critical export mass of local companies;
- c. Promote development of industrial clusters in functional regions within the value chain;
- d. Building the competitiveness of the regions by developing appropriate business infrastructure, sector-specific employable skills and informative sector education, institutions and other key requirements to support the long-term exploitation of the comparative advantage of the region;
- e. Facilitate capacity and institutional partnerships between government, enterprises, academia as well as research and development institutions and international affiliations to facilitate cluster and new innovations with and beyond supported agglomerations;
- f. To create inclusive platforms within the clusters for emerging black industrialists in order to develop and effectively participate in the economy;
- g. To develop technology consortia and sector development advisory capacity, and
- h. To create collaborative platforms for facilitating development needs of industrial sectors through radical sector development approach.

Table 3.1: Industrial Clustering Perspective

Characteristics	Pure Agglomeration	Industrial Complex	Social Networks
Firm Size	Atomistic	Some Firms are large	Variable
Characteristics of Relations	Non Identifiable Fragmented unstable	Identifiable, Stable trading	Trust, loyal, joint lobbying, joint venture, non-opportunistic
Membership	Open	Closed	Partially open
Access to cluster	Rental payments and location necessary	International investment and location necessary	History experience, location necessary but not sufficient
Space outcomes	Rent appreciation	No effect on rent	Partial rental capitalisation
Notion of space	Urban	Local but not urban	Local but not urban
Example of cluster	Competitive urban Economy	Steel or Chemical Production complex	New Industrial Areas
Analytical Approaches	Models of pure agglomeration	Location production theory, input-output analysis	Social Network Theory

Source: Adapted from (McCann, Arita et al. 2002)

Table 3.1 indicates that each industrial cluster is characterised by certain elements and further there are various categories industrial clusters ranging from pure agglomeration, industrial complex to social networks (Mytelka and Farinelli 2000, McCann, Arita et al. 2002, Morris and Einhorn 2008, Nie and Sun 2015).

According to Porter's (1998) Diamond Model the characteristics of each cluster depends on the industry needs such as the Demand for product, how the industry is structured and what informs its strategy to compete with the rest of the world, what factor conditions are needed in order to propel the cluster into the great heights and lastly what binds together the related industries or firms in a bid to be competitive. The different segments of industrial clusters in table 3.1 further indicate that the more complex the industrial clusters the more autonomous they become and thereby operating in silos. Whereas the social networks become vulnerable if they are not working closely but opportunities are open for new entrants (Jacobs and De Jong 1992, Krugman 2011).

According to Schmitz and Nadvi (1999) asserted that industrial clusters that are limited to local markets are likely to experience involutionary rather than evolutionary growth. Clustering tends to attract traders but this cannot guarantee the effective trade links to international markets. Further the industrial clusters in developing economies which are well connected to distant markets by traders have higher incomes than those which are not (Obstfeld 2003, Titze, Brachert et al. 2014). Similarly, the poor distribution networks in East and Southern Africa are a major factor in accounting for the inferior growth performance of small producers (Schmitz and Nadvi 1999, Riasi 2015). Sanctions and trust are important both within clusters and their trading connections (Schmitz and Nadvi 1999, Humphrey 2001, McCann, Arita et al. 2002, Köhler 2014). Where sanctions and trust are missing, a production system requiring deepening specialization and interdependence of formally independent industries is unlikely to develop. Schmitz and Navdi (1999) emphasised that contract enforcement and economic cooperation are often hampered by institutional failures and that this explains the dearth of successful clusters in South Africa. It is important to emphasise that the social networks furthered the growth and development of industrial cluster in the developing economies. The lack of trust also brings discontinuities in the learning process. Humphrey (2001) indicated most clearly on how distrust between producers and traders, due to existing socio-cultural barriers, can hamper the process of local learning and retard a cluster's technological development.

3.2. The contextualisation of the textile and clothing industry clusters under review

The underlying history of the South African clothing and textiles industry is unquestionable. It has been a backbone and remains a very critical source of employment, particularly for women (Barnes, Bessant et al. 2001, Morris and Barnes 2007). It is geographically concentrated in certain locations, particular provinces like the Western Cape, KwaZulu-Natal, the Free State and Gauteng and cities like Cape Town, Durban and Johannesburg as well as certain rural areas (such as industrial towns). Such industries have existed for many decades and are rooted in the unique history and cultural traditions of these areas, and provide a noteworthy proportion of employment (Nordås 2004, Morris and Barnes 2007). In its rural concentrations, the industry is often the only source of formal employment and very many families are dependent on it for their survival. This geographic and demographic profile has resulted in tremendous social costs resulting from the industry's recent crisis and the resulting loss of employment. Some of the challenges were emanating from the trade liberalisation and deregulations of trade by the South African government. The advent of democracy in South Africa provided mixed emotions more especially to the emerging industries and those that enjoyed protectionism from the previous government (Gordon and McCann 2000).

Vlok in Stiftung (2006) stated that before 1994 the textile and clothing industry was highly protected and focussed almost exclusively on the domestic market. This allowed inefficiencies to go unchecked and resulted in a failure to become internationally competitive (and, therefore, a failure to develop significant export capacity) and a concentration of production in low value-added products. Nevertheless, a number of high quality, high value-added producers, such as manufacturers of men's formal shirts, suits, and other tailored garments came into being and achieved success both in the domestic and export markets (Schmitz and Nadvi 1999). It is relatively attested globally that textiles and clothing are closely related sectors in terms of the technology and trade policy. The deregulation of the sectors has been controversial because textiles and clothing contribute to employment in both developed and developing countries, but manufacturing in most developed countries has recently contracted and changed its focus (Knappe 2003, Gereffi and Frederick 2010).

Currently, the US, EU and Japan are the largest consumers of textiles and apparel, yet the majority of clothing and textiles in these countries are imported. The Japan Textile Importers Association estimates that 87% of clothes on sale in Japan are imported, while the American Apparel and Footwear Association estimates that 89% of US clothes are imported (Flanagan 2003).

Between 1995 and 2002, the US share of world imports of textiles and clothing increased from 14% to 21%, while since January 2001, 344,000 jobs in the industry have been lost, indicating that clothing and textiles manufacture in the US has been declining (Knappe 2003, Gereffi and Frederick 2010). There is, however, still an apparel industry left in the EU, especially in Southern Europe, consisting of approximately 100,000 firms employing 2.5 million people with a turnover of US\$229 billion (Flanagan 2003). In 2003, EU countries imported 37% of their garments from each other, and a further 7% from the 10 countries that were due to join the EU in 2004 (Flanagan 2003), while EU imports of clothing between 1995 and 2002 stagnated at 19 percent (Nordås 2004). Despite this trend, EU production has been declining, with nearly one million jobs lost since 1990 (Flanagan 2003, Gibbon 2003). In recent years, however, the sector has struggled to hold its own against legal and illegal cheap imports from China, India, and Pakistan (Morris 2006, Morris and Einhorn 2008). It had to deal with the insufficient investment, the slow adoption of new technologies, low productivity, labour-related challenges, skills shortages, inadequate firm level competitiveness, and limited access to credit. It is expected to continue facing serious challenges in the coming years, with its future performance and sustainability highly reliant on a package of support to enhance sub-sectorial competitiveness, among other measures (Gibbon 2003).

In 2000, when the US Congress agreed to the African Growth and Opportunity Act 106 of (2000), textile manufacturers were expected to benefit the most (Mattoo, Roy et al. 2003, Morris and Einhorn 2008, Smit 2010). The AGOA aimed to facilitate Sub Saharan Africa export-led growth by extending GSP tariff preferences to a wider range of products (subject to minimum levels of value added) (Mattoo, Roy et al. 2003, Morris and Einhorn 2008). The AGOA incorporated different rules of origin to the GSP.

It built on procedures which had been established early in the 1990s in relation to the Caribbean Basin Initiative allowing for the use of US-origin inputs or regional inputs in the calculation of minimum levels of value added (35 percent) (Kaplinsky and Morris 2008). Though it is not the case 14 years on – the motor industry is the greatest beneficiary – textile exports to the US increased by 62%. AGOA was set to be renewed in 2015, and industry insiders believe that it will continue to benefit local manufacturers. Also since the turn of the millennium, the textile industry has benefited from its Free Trade Agreement (FTA) with the European Union. Although the clothing, textile, footwear, and leather (CTFL) industry contributes only 1% to gross domestic product (GDP) (StatsSA, 2014), it is one of the most labour-intensive segments of South Africa's manufacturing industry. However, with the technological developments in the local textile, production has evolved into a capital-intensive industry, producing synthetic fibres in increasing proportions. In 2009, the Clothing, Textiles, Footwear and Leather Competitiveness Scheme was launched to encourage the upgrading and modernisation of factories.

In the same year, the IDC co-launched the Production Incentive Programme with the Department of Trade and Industry, and it administered the launch of the department's Clothing and Textiles Competitiveness Programme in 2010 (IDC 2010). The IDC (2010), together with the DTI's Production Incentives Programme (2010), has been involved in the expansion and stabilisation of more than 300 clothing and textiles companies countrywide. One of the more noteworthy investments was made into Prilla 2000, which IDC had bought out to save. Because of this backing, the company was able to make the mill more efficient, and replace old equipment with the latest spinning technology, which has increased its volume from 6 500 tons a year to 11 000 tons (IDC 2010).

3.2.1. Customised Sector Programme (CSP) for Textile and Clothing in South Africa

The CSP was finalised in August 2006 (the DTI 2006). However, since that time, the Retail Sector has rescinded its support for the CSP and consequently, the programme has not yet been introduced. The CSP is intended to develop and modernise the textile and clothing industries and to put them on a path to higher competitiveness (DTI 2006). It embraces the following aspects:

- a. Domestic market development;
- b. Promoting exports;
- c. Competitiveness by upgrading technology and investments;
- d. Upgrading skills;
- e. Empowerment, and
- f. Pursuing a partnership approach.

At this stage, the only progress under the CSP is that some of the projects contained within the programme are being advanced. These are:

- a. Country of Origin labelling;
- b. Replacement for the DCC Scheme, and
- c. Developing a capital upgrade provision for the sector.

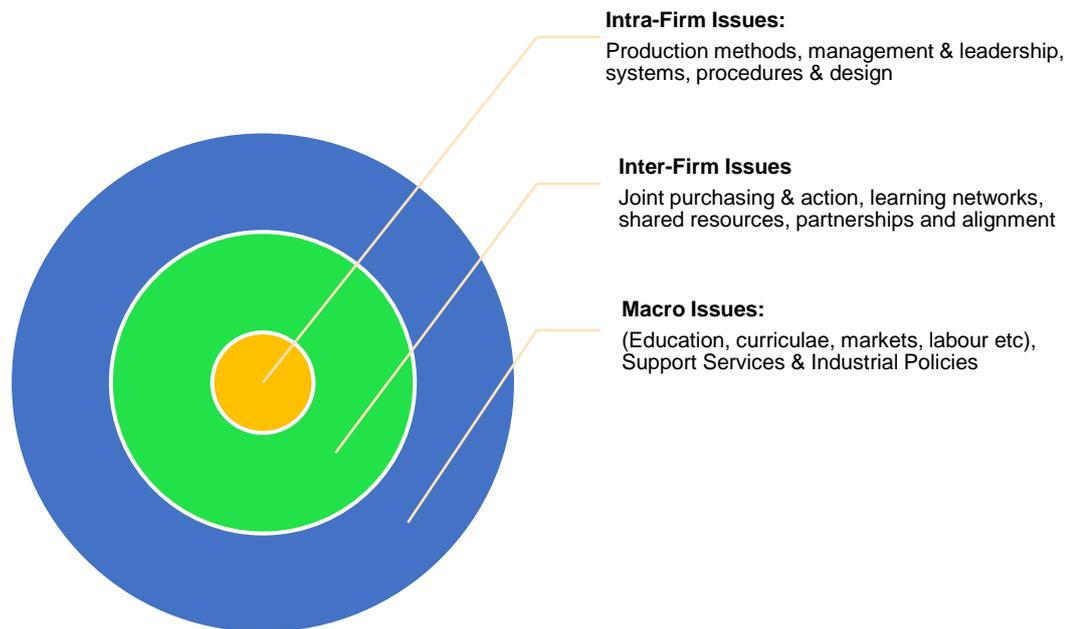
There are a number of companies that have benefited from the programme (DTI 2006). However, not all companies are able to access the incentive scheme due to the bureaucratic processes and associated documentation. This has posed a challenge to emerging small business that has struggled to enter into the mainstream economy.

3.2.2. The KZN Clothing and Textile Cluster

The KwaZulu-Natal Clothing and Textile Cluster (KZN CTC) is a not-for-profit public/private sector partnership of clothing, textile, and retail firms in KZN which was established in August 2005 (Morris and Barnes 2007). The aim of the KZN CTC is to boost the competitiveness of the local industries and to ascertain that they compete in the global markets. When South Africa was exposed to the global competition, it was critical for local firms to collaborate and pool their resources together in order to meet the intense competitiveness challenges that emerged (KZNCTC 2015). The KZNCTC comprise 45 members who are paying membership fees annually.

The Department of Economic, Tourism and Environmental Affairs and eThekweni Municipality were over the years funded the KZNCTC in order to ensure that there is the creation of jobs and businesses that are sustainable. These companies should be able to compete with the eastern bloc.

Figure 3.2: The Vision of the KZN Textile and Clothing Cluster (KZNCTC)



Source: Adapted from B and M Analyst 2015

Figure 3.2 depicts the Tiers of Factors Influencing Competitiveness. The external and internal factors affect the capability of local firms to compete and grow. The diagram also outlines the inter-related nature of these factors and some of the elements that need to be tackled for the industry to grow (Porter 1998, Ishmael 2008, Ozgen 2011, Riasi 2015). The KZN CTC needs to operate at all tiers, in order to ascertain that the industry members receive adequate internal support, and develop a strong foundation for competitiveness. The cluster creates productive linkages between firms and role-players while developing the broader environment in which firms operate.

3.2.3. Governance and institutional structure of the KZNCTC

The KwaZulu-Natal Clothing and Textile cluster is a section 21 company not for gain. It is governed by the Companies Act No. 71 of 2008. It is a special purpose vehicle incorporated solely for the purpose of implementing specific activities that support the cluster members. The structure of the textile and clothing cluster follows Porter's Diamond Model. Members of the cluster are encouraged by the cluster's institutional arrangement as a special purpose vehicle for discharging administrative duties. Governance plays a significant role in the firm's structure (Porter 1998, Smit 2010, Ozgen 2011).

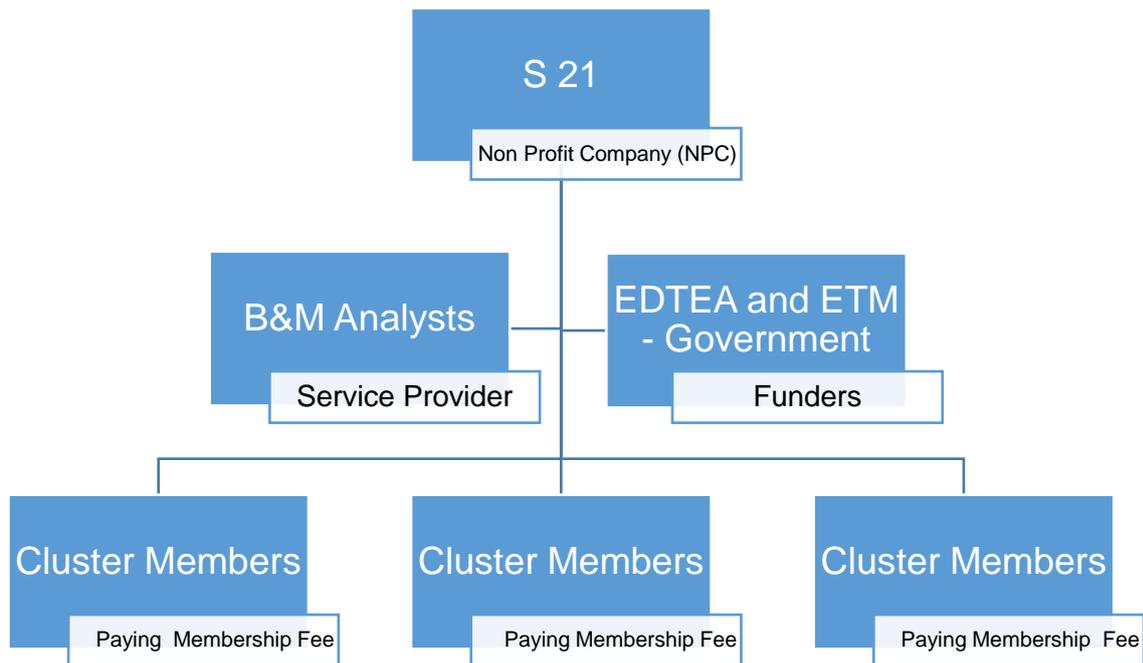
Industrial clustering has the potential to facilitate industrialization (Porter 1998, Morris and Barnes 2007). Generally, this notion is a challenge. However, in order to succeed and realise the potential, industrial clusters have to come out from the low levels of production and distribution (McCann, Arita et al. 2002, Knappe 2003). For clusters to be effective and operate as business ventures, social, political and economic institutions are critical in shaping the human interaction. For a complete explanation, we need to look beyond the cluster itself to its institutional context (McCormick 1999). The seven interrelated areas in which the Cluster operate are broadly categorised as follows (B and M Analyst 2015):

- a. Process upgrading support
- b. Skills development
- c. Expansion as a knowledge hub
- d. Market access and development
- e. CMT development programme
- f. The Green Initiative
- g. Executive functions

3.2.4. **Constitution**

The activities of the KZN CTC are governed by the constitution which is in line with the Kings Report IV – Corporate Governance. Like all other constitutions, it specifies, among other things; objectives, membership requirements, decision-making processes and the process for appointing a facilitation service provider. The B&M Analysts is the service provider that provides support to the cluster on behalf of the KZNCTC. The current structural arrangement is as follows:

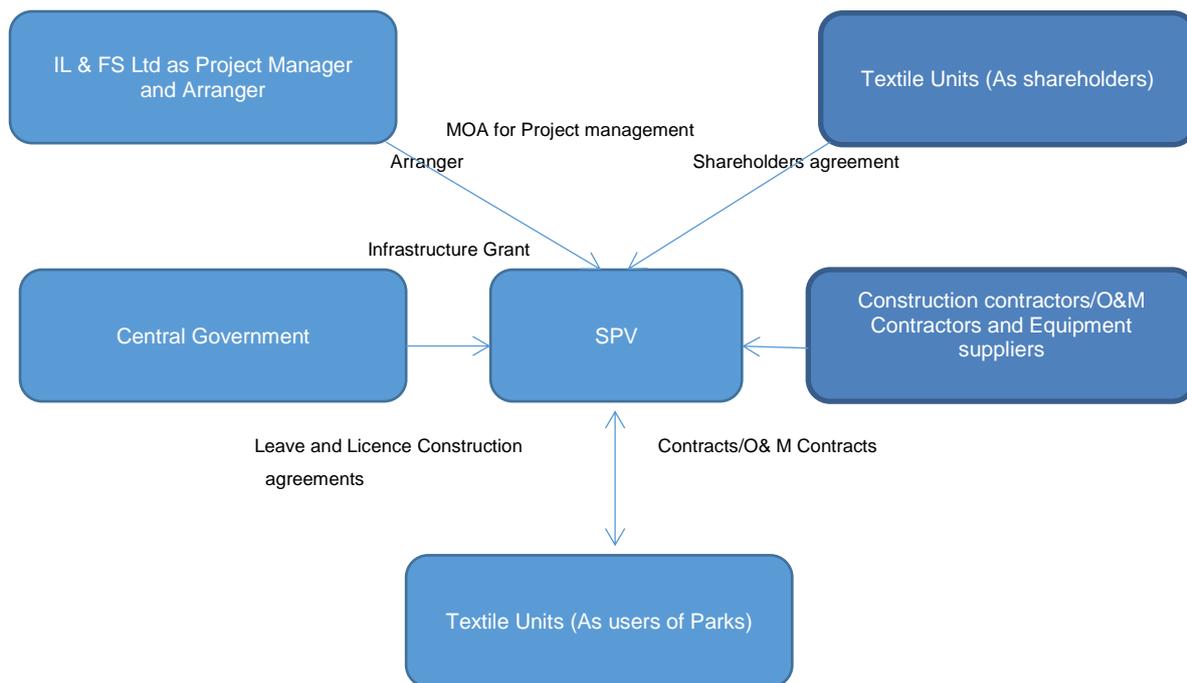
Figure 3.3: Organisational structure of the KZN Clothing and Textile Cluster



Source: Author

The above figure 3.4 shows that the KZNCTC is supported heavily by all spheres of KZN government in a bid to boost the industry to be competitive in their businesses thereby creating sustainable jobs, alleviating poverty and deal with the inequality. The funders (normally government) sign a funding agreement (MOA) with a cluster depending on a submitted business plan and the proposed programmes. Funding varies from time to time depending on the availability of resources.

Figure 3.4: Special Purpose Vehicle (SPV) of the textile and clothing cluster



Source: Adapted from Sign (2006)

Figure 3.5 illustrates how other international clusters form the Special Purpose Vehicles (SPV) which plays a central functioning model and provides a legal and managerial leadership. The concept of SPV (cluster concept) binds the cluster members through commercial and financial contractual structures. When comparing the above two figure they are more similar and suitable in the functioning of the cluster collaborative behaviour than the usual industry association approach (Porter 1998, Morris and Barnes 2007, Ozgen 2011). The SPV also brings various stakeholders together on a common platform thereby realizing (and releasing) the synergies of the cluster. The EDTEA use the combination of figure 3.4 and figure 3.5 in providing assistance into the industry clusters. This is part of government intervention in all clusters.

According to Singh (2006) the benchmark of the Indian SPV is drawn from the concept of ownership and management by the SPV. Therefore each industrial park is established and controlled by a specific Special Purpose Vehicle (SPV) which is usually a company registered under South African Companies and Intellectual Property Commission (2008).

Therefore, such registered company will have an authority to attract more industries, greater participation, ownership and sustainability. In a normal situation the SPV will develop an industrial park with basic services and infrastructure (Buildings) (Jacobs and De Jong 1992, Morris and Barnes 2007, Marshall 2009). The buildings are divided into sub units or factories for individual members on lease. At some point the model of ownership of the SPV rest with the members of the park to take a percentage. This arrangement enable the unit owners to use shared facilities and thereby saving costs. Singh (2006) further pointed out that the SPV could also play a significant role in assisting companies in various business operations such as sourcing of raw material, machinery, provision of integrated marketing of products and availing of business development services to members.

3.2.5. Operations and competitiveness of the KZNCTC

The formalisation of the KZNCTC compressed number of activities of these clusters which are synergised to enable a national development plan to be executed for the enhanced competitiveness of the clothing and textile industry in South Africa (Morris and Barnes 2007). With the support from five of South Africa's largest retailers, the Cluster has been able to establish and entrench programmes designed to assist local firms' development by accumulating economies of scale through a group of activities and shared resources (Enright 2003, De Backer and Miroudot 2014, Riasi 2015).

a. Lean Best Practice Study Tours

The KZN CTC has a solid programme in place where it provides for the best practice study tours which give an opportunity the cluster members/firms to visit leading facilities in other provinces and learn from their experiences, bolstering the learning from the peer reviews (Markus 2008, Morris and Einhorn 2008). This is an exchange programme between cluster to cluster (Cape Town Clothing and Textile Cluster) programme (B&M Analysts 2016).The exercise of the benchmarking process proliferates that the visiting firms learn about new processes on how to be competitive and stay ahead of the competitors and contrary, the host firm ensures that all the processes and systems are seamless in order to maintain the presumed image by the visiting firms (Mytelka and Farinelli 2000). This programme encourages firms to embark on a continuous improvement plan and always find a new way of growing their businesses.

b. Benchmarking

The contracted service provider by EDTEA and eThekweni Municipality developed a cutting-edge benchmarking methodology and market driver for all KZN CTC members (B&M Analyst 2016). With no doubt, the local clusters have benefited from the works that have been done over the past ten years by B&M Analysts who have become leaders in the field of benchmarking and competitiveness analysis through the development of its world-class benchmarking methodologies and an extensive competitiveness database (Köhler 2014, László 2014).

The benchmarking exercise provides an opportunity to each company to get a detailed report which contains a comparative performance (Morris and Barnes 2007) over 30 key measures in areas of:

- a. Financial performance
- b. Cost control
- c. Quality
- d. Value chain flexibility
- e. Value chain reliability
- f. Human resource development
- g. Innovation capacity

The all-inclusive report which contains the comparative performance outlines the strategic and operational challenges and opportunities for each firm that went through the benchmarking process (Ishmael 2008, Markus 2008). The outcome of this process is that it promotes the firm's ability to:

- a. Understand and meet customer demands;
- b. Match and/or exceed competitor performance levels, and
- c. Improve its operational competitiveness.

The operational basis of the cluster is the continuous improvement competitive driver model against which each firm's performance was benchmarked to facilitate learning and upgrading (Barnes, Bessant et al. 2001, Barnes 2003, Morris and Barnes 2007).

Table 3.2: Marketing Driver Matrix measuring operational performance

Marketing Driver Matrix measuring operational performance cost Control	Inventory use (raw material, work in progress, finished goods)	Single unit flow, quality at source, cellular production, kanbans
Quality	Customer return rates, internal reject, rework and scrap rates, return rates to suppliers	Quality control structures, statistical process control, quality circles, team working, multi-skilling
Lead Times (Value Chain Flexibility)	Time from customer order to delivery, delivery frequency of suppliers and supplier delivery reliability, delivery frequencies to customers and delivery reliability	Business process engineering, cellular structures, processing and dispatch, value chain relationships and supply chain management
Flexibility (Operations)	Manufacturing throughput time, machine changeover times, batch sizes, inventory levels, production flow	Production scheduling, Just-In-Time, single minute exchange of dies, multi-tasking and multi-skilling, cellular production in manufacturing
Capacity to change (Human Resources)	Literacy/numeracy, suggestion schemes, employee development/training, absenteeism rates, labour/management turnover, employee output	Continuous improvement (Kaizen), work organization, worker development and commitment programmes, industrial relations
Innovation	Research and Development (R&D) expenditure (process and product), contribution new products to total sales	Concurrent engineering, R&D

Source: Adapted from (Morris and Barnes 2007)

Table 3.2 depicts that critical success factors of the Marketing Driver Matrix measuring operational performance of the industrial cluster (Morris and Barnes 2007). The industrial cluster is deemed to be competitive if the firms met the minimum standards of high quality.

It is not novel that if a firm is aspiring to be a world class manufacturer there are stringent requirements that are to be met in order to compete with the rest of the world such as quality control structures, statistical process control, quality circles, team working, multi-skilling (Kaplinsky, Morris et al. 2002, Ioan and Gabriela 2009, Köhler 2014, Riasi 2015). Continuous improvement, work organization, worker development and commitment programmes, industrial relations further illustrate the importance of the KAIZEN Approach in order to be ahead of the competitors. The success of the industry/firm depends on the continuous investment on research and development which as a greater part of innovation and technological advancement (Felzensztein and Gimmon 2009, Fowler and Kleit 2014, Heizer 2016).

c. Value Chain Alignment

The extensive literature on industrial clusters has emphasised the importance of local synergies, inter-firm co-operation and industrial policy at the local level (Humphrey 2001, Meyer-Stamer 2002). Researchers and policymakers around the world, keen to identify success factors and leverages for action, have proclaimed the importance of local governance structures. At its core, the Value Chain Alignment (VCA) programme focuses on forging synergies between clothing and textile suppliers and the major clothing retailers they supply (Schimitz 1999, Morris and Einhorn 2008). Securing retail involvement has been critical in establishing a forum to facilitate interventions for alignment through the value chain. For example, there are six retailers who participated in this programme and all our members of the KZNCTC and CTCTC clusters. Global buyers could play a major role by insisting that their suppliers and the subcontractors of the suppliers adopt good employment and environmental practices (Morris 2006, Morris and Einhorn 2008). Some buyers already have codes for this purpose, although little is known about how effective they are. Other buyers are reluctant to interfere in their suppliers' internal affairs. The establishment of the industrial clusters and value chain linkages is often proliferated within the dialogue of industrial policy as of critical importance (Morris 2006, Markus 2008). The participation and intervention of government and private institutions and the private sector within the national system of innovation are also accentuated in accessing and maintaining networking linkages (Barnes 2003). It should be noted that when government craft policies which are aimed at developing value chain linkages and/or facilitating clustering of firms is essential but not discounting external variables.

This emphasis within the realm of policy seldom extends to issues of implementation, and studying *how* purposive action can implement policies to produce vertical and/or horizontal networking and learning tends to disappear from the policy discourse (Morris and Barnes 2007). The KZN Textile and Clothing Cluster has developed a number of operational initiatives such as:

The development of the Quick Response (QR) methodology and the practical details for implementation are critical in the cluster value chain. Detailed knowledge of how to practically implement QR in the supply chain will create a clear competitive edge for South African based manufacturers. The cluster generates knowledge through embarking on various study tours in order to understand the practical implications relating to the decoupling of fabric from the traditional pipeline. The Supply Chain Management is a critical component that is important within the cluster industry value chain that drives towards improving value creation as well as international competitiveness. Both international theorists and industrial practitioners have highlighted this necessity (Hines, 1994; Lamming, 1993). In this instance, the Just in Time production processes will be disturbed in one small batch the supplier fails to deliver on time the expected quality.

Newsletters highlighting industry developments, trends and market analysis is distributed to members bi-monthly and contains updates on new library content, book reviews, and recommendations. The newsletter is an important instrument in attracting members to advertise content as well as advertising their cluster.

Retailer Reports have been a critical frame of reference in studying the results and practices of leading international retailers and comparing these against the supply chain models and performance of SA based retailers. These reports shape the market in South Africa and underpin the quick response methodologies we champion (Barnes 2003).

Market Access and Development warrants the cluster holds mini-conferences yearly that are critically important in disseminating information and reports to its members. The objective of the conference is to encourage the notion of uniformity and to give members a chance to mingle and share experiences about their businesses.

Industry members are also offered an opportunity to showcase their products to the major industry players in the value chain and seek joint business ventures (B and M Analyst 2015). Retail engagements are a crucial component of the cluster's activities as retailers need to understand the developments in the Quick Response knowledge set (Morris and Einhorn 2008, Pratt and Hutton 2013).

Green Initiative and Joint Actions was the cluster initiative in combating carbon and energy saving. The initiative has proven the value of shared learning and facilitation by experts. It is noted with caution the introduction of the carbon tax by the government. This has significant impact cost implications for company suppliers and the industry in general. The other cluster joint initiative is the cost savings in issues such as supply chain management processes, packaging, stationary and travelling (Newlands 2003, Ozgen 2011).

CMT Development Programme was designed by the KZN CTC in order to assisting the new entrants into the cluster. The cluster programmes are designed to cater for the broader participation of small businesses in the network (Jacobs and De Jong 1992, Porter 2000, Ivanova, Strand et al. 2016). The programme such as the CMT has benefited small batch manufacturers, especially in the greater Durban area. There are other initiatives that have benefited the CMT SPV/Project Management such as:

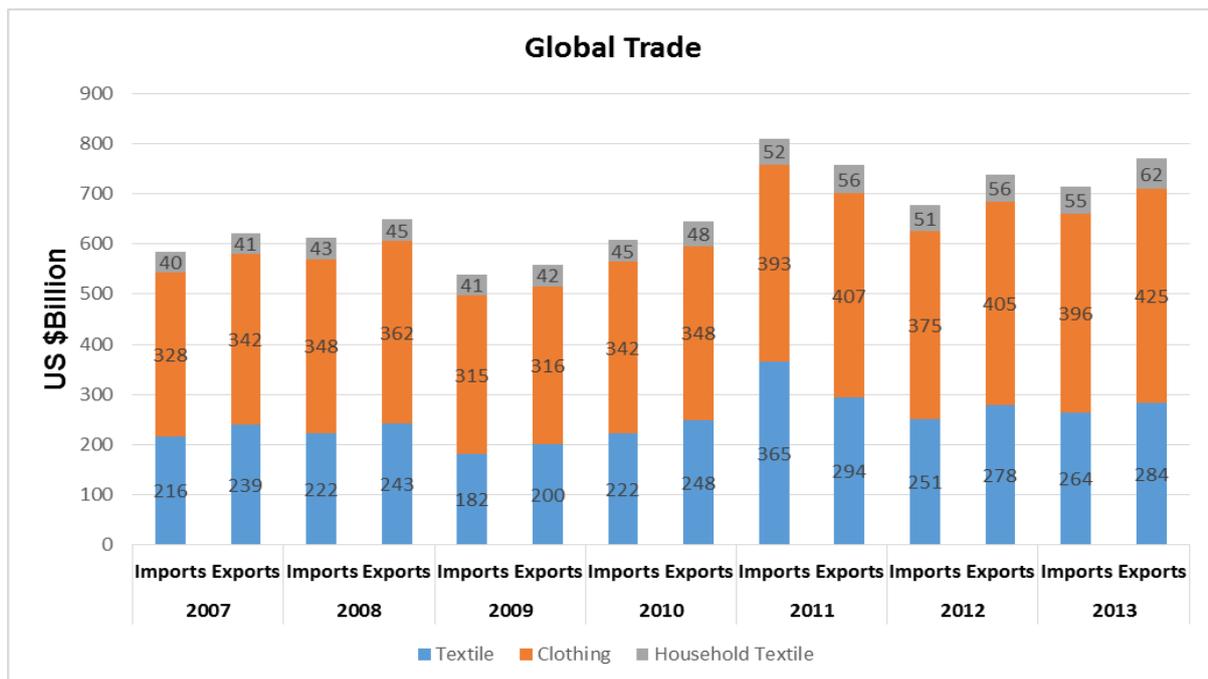
- a. Identifying and recruiting CMT owners to participate in the programme. A matchmaking processes is designed for the emerging CMT with large manufacturers in a bid to secure lucrative deals.
- b. The cluster also [provides an opportunity to five CMT companies to undergo training for developing a bankable business plan which could be submitted to various financial institutions such as IDC, National Empowerment Fund (NEF) and more.

d. The benefits of joining the KZN Clothing and Textile Cluster

Significantly, an analysis of data collected by B&M Analysts (2014) benchmarking activities in the industry suggests that KZN CTC performance has outperformed the national average in the case of both clothing and footwear, although textile firms lagged behind.

Clothing sales revenue grew by 10.2% in 2014, up from 5% in the previous year; indicating revenue growth at an approximate 1.2% higher than the industry average (Morris 2006, Morris and Barnes 2007). The figures above are the indicative of pulling together of companies in improving sales revenue and thereby gaining market share. The formidable strides made by the industry are also encouraging the struggling industries to regain confidence after the trade liberalisation and the distortion of markets by the eastern bloc (Morris 2006). It must be mentioned though that the sluggish economy has dented a number of industries especially in sustaining themselves and also to keep the scarce jobs (KZNCTC 2015). Figure 3.6 and 3.7 below indicate the global trade and the recent outlook for the local industry which is increasingly positive as benchmarking data shows significant performance in exports though imports are still very high. The findings presented below:

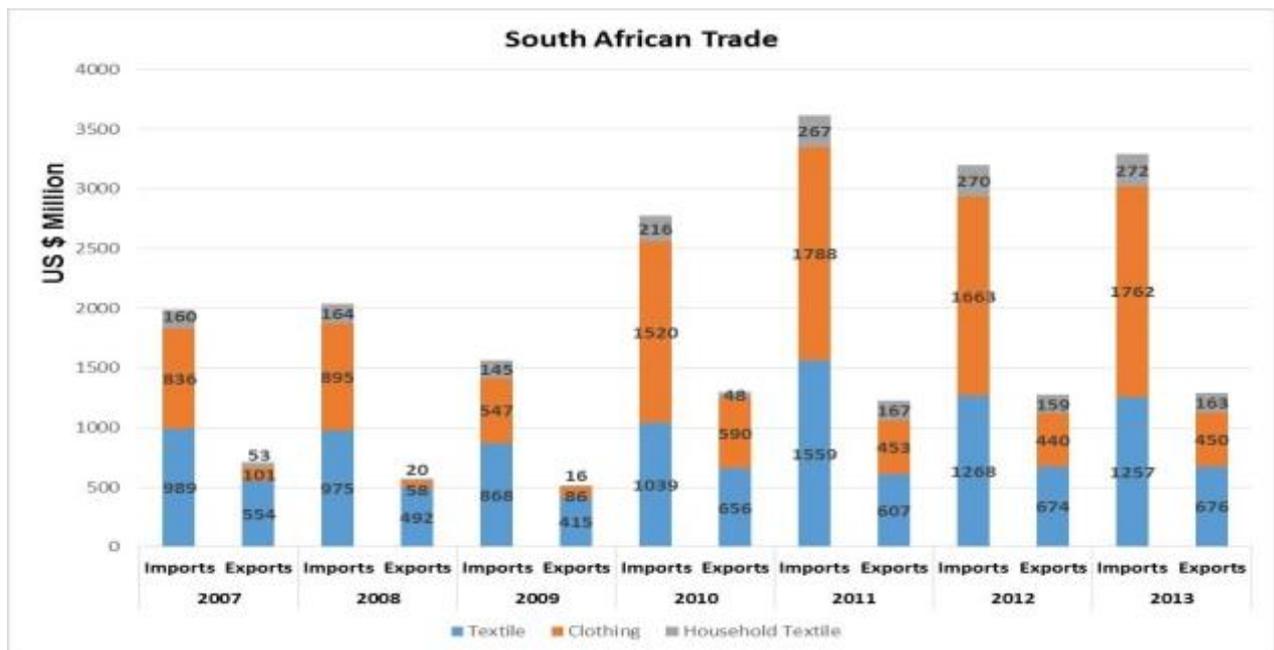
Figure 3.5: Global trade in textiles, clothing and household textiles



Source: Adapted from B and M Analysts 2015

The international trade in textiles, clothing and household textiles has grown notably since 2007, and by 2013, exports were approaching \$800 billion. The data shows improved growth in 2013 relative to 2012, spurred predominantly by the clothing sector (B and M Analysts 2015).

Figure 3.6: South African trade in textiles, clothing and household textiles



Source: Adapted from B and M Analysts 2015

Figure 3.7 depicts the sluggish improvement in the growth of exports while imports continue to pose a threat, especially in clothing, textiles and household textiles over the period of 2007 to 2013. The rise of exports in 2010 was due to the inclusion of trading partners with countries in the Southern African Customs Union (SACU), hence there has been growth in all three categories (B and M Analysts 2015). The figure above also highlights the wide discrepancy between South African imports and exports. In 2013, the imports in the three categories were approaching \$3.5 billion, while exports amounted to nearly \$1.3 billion, having experienced limited growth between 2010 and 2013. The continuous deficit poses a serious challenge that the local industries are facing which related to global competitiveness and abilities to capitalise on export opportunities.

3.2.6. Challenges faced by the KZN Clothing and Textile Cluster

In addressing some of the challenges, it requires local manufacturers to identify and capitalise on particular areas of differentiation, with a dogged focus on improved productivity (Felzensztein and Gimmon 2009, Schwab and Sala-i-Martin 2010).

The domestic industry value chain has been affected by the restructuring and the local clothing and textile clothing manufacturers have resorted in supporting the local retailers and the economy booming as a result of the appreciating exchange rate which accord with the indirect impact of global Chinese clothing exports (and competition from falling unit prices), provided retailers greater buying power in international markets (Morris and Einhorn 2008, Spencer, Vinodrai et al. 2010, Natrass and Seekings 2013). Primarily driven by the union's vociferous concern about the loss of formal jobs and the rise of employment in the more informal 'cut, make and trim' (CMT) sector, arising from large full package manufacturers losing their grip on the industry, the government has been pushed into primarily focusing on the employment impact. The impact of imports on the competitiveness of local producers, forcing them to radically upgrade to meet the new price, quality and reliability demands, has received far less attention (Barnes 2007). The global challenges of the textile and clothing industry are caused by the constant changes in technology which requires huge investments continuously. China has been seen as a leading role player in this. As most of the developing countries are importing modern technology from China, it causes delays in productivity efficiencies (Morris and Einhorn 2008, Power 2008). The economic downturn has impacted on the South African economy where producers were affected by the dollar-rand exchange which has raised the costs of production, such as material, dye, and other material accessories. The issue of under-invoicing by large firms has crippled the local market since the imported goods are sold cheaper than the locally produced final products. This has got the cripple effect in terms of job losses, businesses shutting down thereby effecting the economy. Even though government through SARS is making all attempts in curbing scourge but it is not easy (Morris and Barnes 2007, Cho, Moon et al. 2008).

3.3. Furniture Cluster

3.3.1. Overview of the Furniture Industry

The furniture industry is known to be part of the global resource and labour-absorptive industry that includes both locally large produced volumes of products by large firms (Jacobs and De Jong 1992, Morris and Barnes 2007). Mass producing furniture became a viable manufacturing business with the advent of the do it yourself (DIY) designed furniture. This product innovation paved the way for firms to design, manufacture and ship products in large quantities.

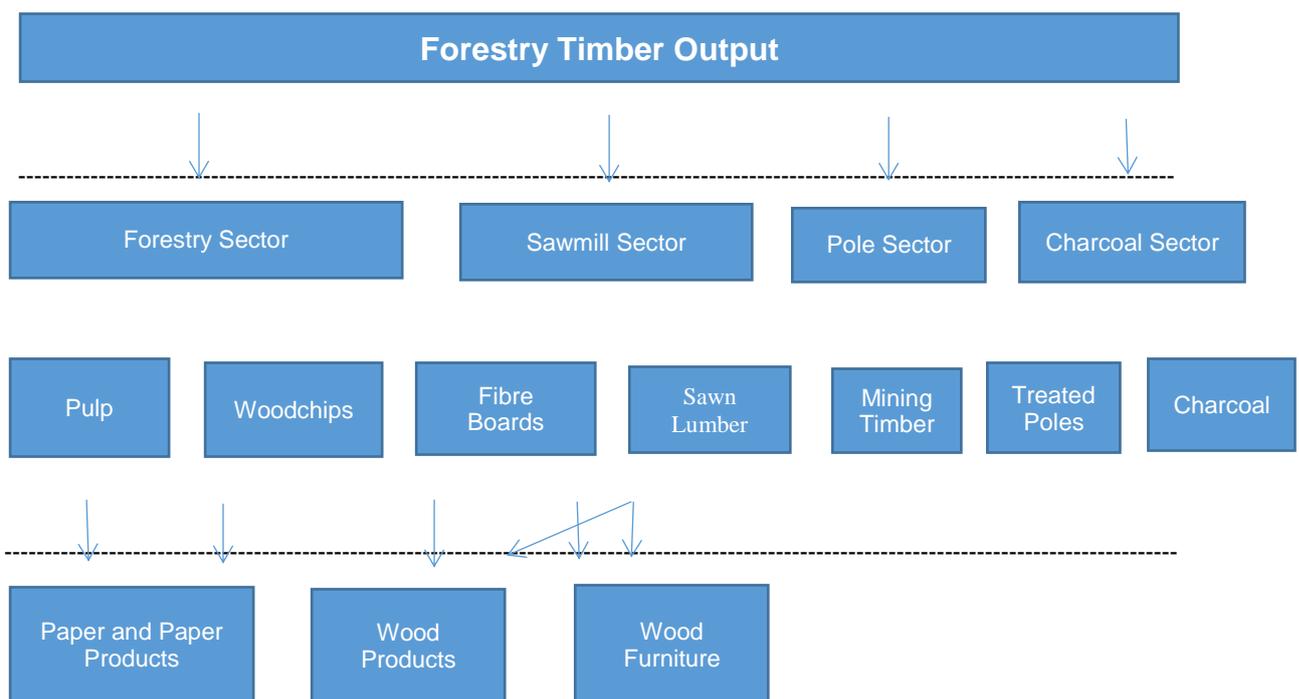
Firms that mass-produce the DIY furniture tend to supply products for the middle class to low-end market. Solid wood furniture manufacturers have retained important niche market segments primarily for high-end, expensive and design-led products. The locally designed products are procured by local consumers while they are produced in volumes for local and international markets (Kaplinsky, Morris et al. 2002). The KZN Furniture Cluster was established by the Department of Economic Development, Tourism and Environmental Affairs (EDTEA) in 2004. The guiding principle of forming the KZN Furniture Cluster was based on the National Industrial Policy Framework (NIPF) which identified various economic sectors that have the potential for growing the economy and thereby creating sustainable jobs. These sectors were therefore included in the Industrial Policy Action Plan (IPAP) with specific indicators, targets, and timeframes as well as resource allocations. Subsequent to that the EDTEA developed a feasibility study that was focusing on interrogating the furniture sector and thereby setting the project steering committee which included eThekweni Municipality and industry stakeholders (furniture manufacturers). The process unfolded with the development of a detailed business plan with the logical framework planning tool. This led to the development of a comprehensive Business Plan that included a Logical Framework planning tool. The Cluster model was based on best practices from a wide range of developed and developing nations (Porter 1998, Morris and Einhorn 2008, Smit 2010).

3.3.2. Growth and performance of the Furniture Sector

The South African furniture manufacturing industry presently employs around 29 000 people, with 2 200 registered businesses involved in the manufacturing of furniture, bedding, and upholstery. The furniture industry (DTI, 2013) is labour absorptive and contributes 0.95% to manufacturing a gross domestic product (GDP) and 1.6% of manufacturing employment. It is one of the job drivers in creating sustainable. Furniture is one of the industries that have a potential of developing small, medium and micro enterprises (SMMEs) (Bumgardner, Romig et al. 2007, Morris and Barnes 2007). The contributing factor is that SMMEs have a potential growing the rural economies with the minimum capital requirement (DTI, 2008). The DTI draft strategy for the development of the furniture industry cited that the global furniture industry has grown by an average of 13% between 2002 and 2006, with exports from the top 10 producing countries accounting for over 66% of global exports.

However, contrary to that, in 2013 the South Africa's export of furniture was worth R4.26 billion and grew by 50.3% from 2012. Unfortunately, there has been a strong global competition around the manufacturing of low cost/low quality and high cost/high-quality products (DTI, 2008). In 2013, the furniture manufacturing industry has chronicled the highest production deployment capacity of 91.9% and the largest increase on an annual basis of 10.8% across all manufacturing sub-sectors (IDC, 2014). To this end, South Africa makes use of the international Harmonised System Code (HSC) (DTI, 2008) that defines the furniture manufacturing industry (Morris and Dunne 2004). In order to present accurate information in relation to the furniture manufacturing industry, it is important to understand what elements make up the composition of the industry. Below is the wood and wood products primary and secondary beneficiation process:

Figure 3.7: Primary processing and secondary beneficiation sectors



Source: Adapted From Pogue (2008)

Figure 3.8 depicts that the value chain of the wood beneficiation process is very long. There is a number of sectors along the value chain (Pogue, Pogue et al. 2008). The furniture sector uses various types of wood and the sawmill sector is very critical in ensuring that there is enough quality material for furniture manufacturing. The issue of compliance in terms of the Forest Stewardship Council (FSC) and International Organisation for Standardisation (ISO) environmental certification programmes plays an integral play in ensuring the competitiveness of the industry (Morris and Dunne 2004).

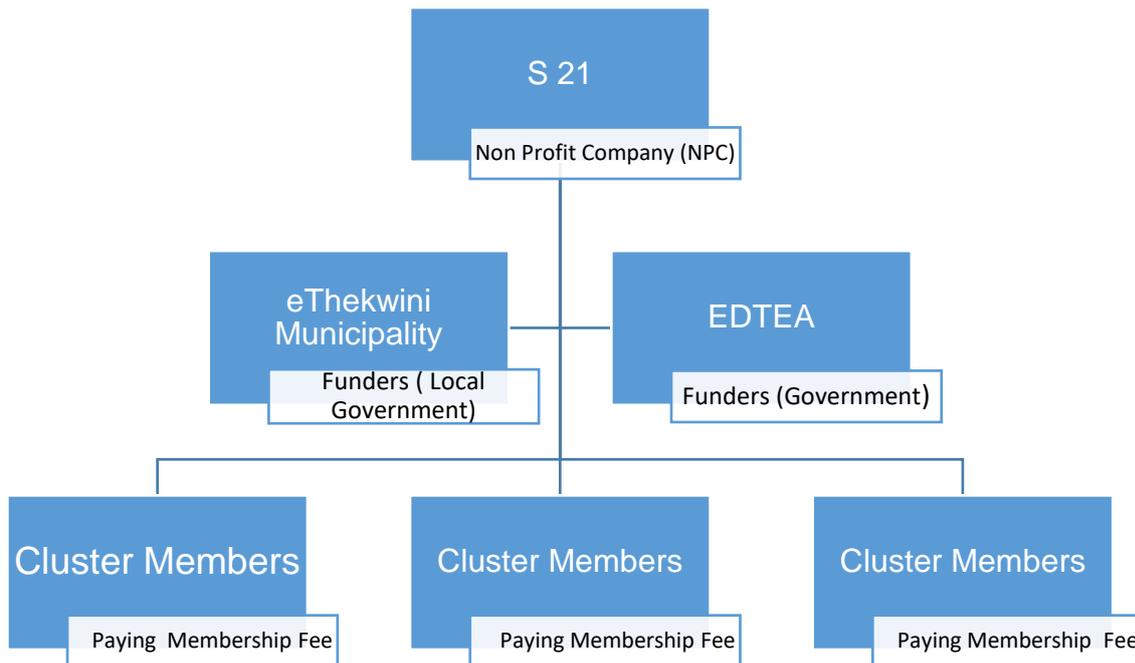
3.3.3. Governance and Organisational Institutional Arrangement

The Cluster concept was adapted from other developing and developed countries such as India, China, Brazil and USA where clusters were successfully implemented (Schmitz and Nadvi 1999, Porter 2000). The KZN Furniture Cluster comprises the Board of Directors, General Manager; Strategic Programmes Manager and Corporate Services Manager. The KZN Furniture Cluster had a vision, mission, and strategic goals.

The vision of the KZN Furniture Cluster:

“To be a furniture manufacturing hub of South Africa which serves local, regional and international markets with competitively priced, quality furniture products”. The mission of the KZNF Cluster is to provide support to furniture manufacturers to drive sustainable growth and employment opportunities through developing the provincial furniture industry.

Figure 3.8: Institutional arrangement for Furniture Cluster



Source: Own Source

The KZN Furniture Cluster is in compliance with the National Small Enterprise Act 102 of 1996, Co-operative Act No 15 of 2005, the Public Finance Management Act 1 of 1999, the Municipal Systems Act 14 of 2000, Batho Pele Principles, Preferential Procurement Act and Contracting Policies. All have the express purpose to stimulate the growth and development of areas identified as most suitable to the long-term job-creation and employment opportunities.

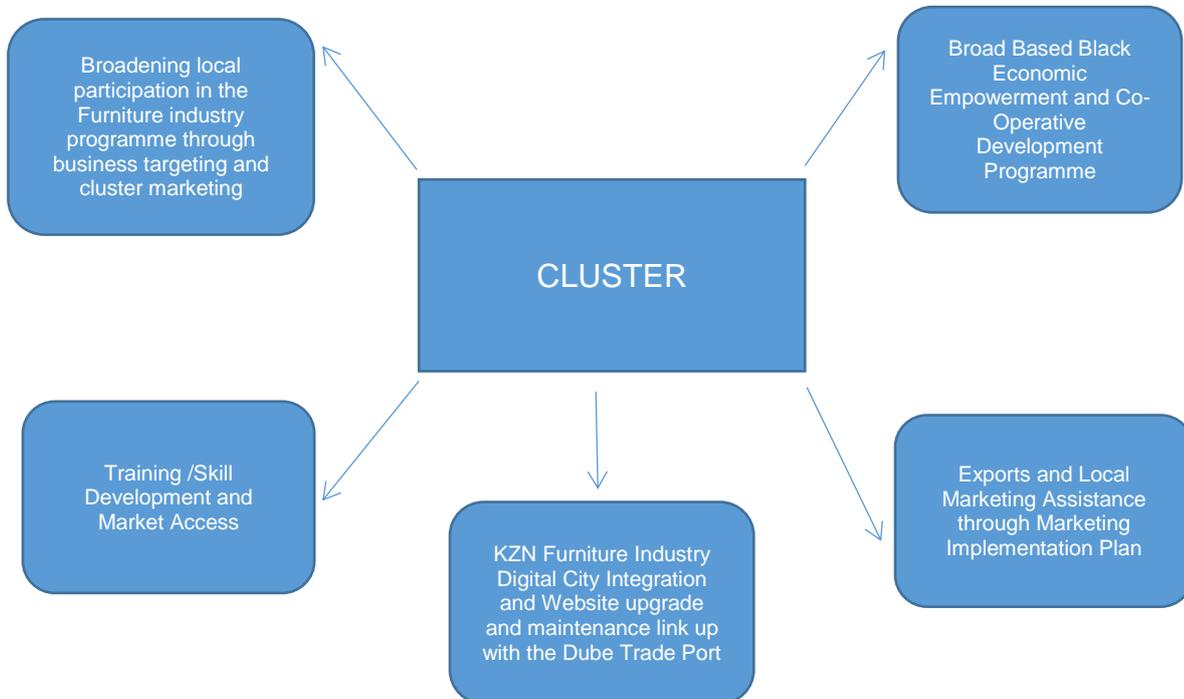
3.3.4. Operations and organisational competitiveness of the Furniture Industry

The following are the most successful interventions incorporated into the KZN Furniture Model (KZN Furniture Industry Association 2008):

- a. Linking the collaborative potential between suppliers (of raw materials, machinery, equipment, accessories, service agents and expert consultants) to the small and medium-sized producers of furniture.
- b. Provision of seed funding to emerging furniture manufacturers who are struggling to raise capital from the corporate banks (from banks, venture capital, private equity, etc.).

- c. Setting up the logistics value chain such as infrastructure, geographical advantages, transportation, and storage in order to accrue the discounted benefits.

Figure 3.9: Operational and organisational competitiveness of the Furniture Industry



Source: Furniture Industry Association (2008)

Figure 3.10 depicts the organisational competitiveness of the furniture industry cluster in KwaZulu-Natal. The industry cluster comprise of various component such as the skills training and development which focuses on the up skilling of cluster members in order to be competitive. The export and local marketing assistance programme plays an integral part in positioning the cluster brand into the world markets. The furniture cluster also assist the new entrants into the cluster to participate into the mainstream economy and thereby contributing into the growth and development of the economy of KwaZulu-Natal and South Africa at large (Kaplinsky, Morris et al. 2002, De Backer and Miroudot 2014). The following are the set strategic programmes that are geared towards achieving the KZN Furniture Cluster vision:

a. Market Intelligence Programme

The Furniture cluster has developed a marketing programme that aims at identifying local and international marketing platforms in order for the local manufacturers to penetrate new markets. This warrants the local manufacturers to be competitive when running their businesses (Schmitz 1999, Porter 2000). The furniture industry is very competitive in terms of international counterparts such as China and Brazil. Consequently, there is a growing demand for reassurance about how products are being made, where they are sourced from, what the environmental compliances in terms of producing and what are the ways employed in order to dispose of after the lifecycle (Humphrey 2001). The Furniture products are highly exposed to these compliance issues and other value-added timber products that draw heavily on natural timber resources and threaten the sustainability of the world's rainforests. In the wood and wood product sector such customer demands have conjoined into the development of the internationally recognised Forest Stewardship Council (FSC) and International Organisation for Standardisation (ISO) environmental certification programmes (Morris and Dunne 2004).

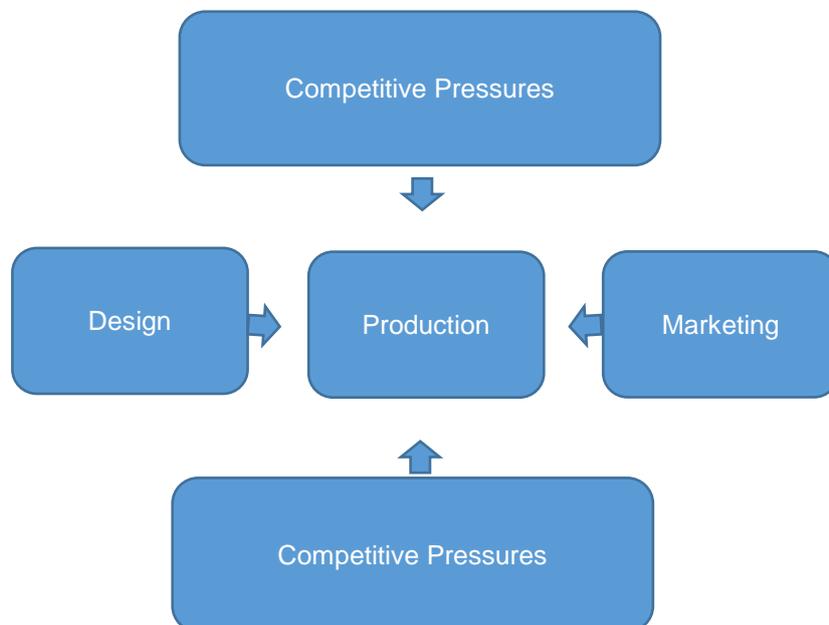
b. Demand-Side Value Chain Linkages Enhancement Programme

These new requirements and global demands impact heavily on the way how businesses are conducted, firms operate, retail buyers behave, and global value chains are organised (Kaplinsky and Morris, 2002). The fact is that businesses tend to be despondent if their suppliers fail to reassure about the sustainability and compliance regarding the demanded products. This could open up for niche markets and new avenues for profitability. The global buyers driving a value chain have keen interest to understand the sourcing of raw material, how it is harvested and also how to satisfy the socially conscious consumers (Humphrey 2001, Gereffi and Frederick 2010). The issue of standardization and compliance is critical to buyers in order to satisfy their own technical quality standards and be able to accredit the final product and also to ensure the increase in product differentiation and produce non-standard customised items as an important source of competitive advantage (Morris and Dunne 2004, Morris and Barnes 2007). The KZN Furniture Cluster signed bilateral agreements with the Department of Education and Department of Human Settlement which is designed to protect the local niche markets for the members of the cluster.

c. Supply –Side Value Chain linkage

The programme aims at enhancing the linkages between local manufacturers and supplier chains to lower costs and create greater efficiencies with procuring suppliers (Barnes, Bessant et al. 2001, Barnes 2003). The supply of raw material which is certified and in compliance with the international standards is critical for local manufacturers (Morris and Dunne 2004). The KZN Furniture Industry focuses on the following raw material in order to ensure that they comply with the international FSC and ISO standards: solid wood – beech, cherry, imbuia, iroko, maple, meranti, oak, pine, seligna, yellowwood, boards, bison, Masonite – brown and white and colours, veneered board – sapele, okume, oak beech, ply board – 3mm and shutter ply, paints and abrasives – duco, sandpaper 120g, 220g, 320g, orbital paper, sealer, stains, thinners. In order to ensure a seamless supply of goods/furniture, production will be monitored in a bid to safeguard that standards South African National Standards (SANS) are achieved. The positive impact of distributing orders amongst a range of Business Units is that the non-performance by a single business unit on the overall performance is minimised (Enright 2003, Jan Stejskal 2011).

Figure 3.10: Competitive Pressures in the Value Chain



Source: Kaplinsky (2000)

Within the value chain, there are key actors that are critical in growing the industry and compete globally (Humphrey 2001, Morris and Einhorn 2008). Figure 3.11 observed that the competitive pressures are exacted in the production process. The integral driver is the existence of the global competition which powers down profits by lower barriers to entry and which increases as producers in many countries enter the global trade (Kaplinsky and Morris 1999, Kaplinsky 2000). Industries along the value chain search for new markets. The more powerful industries in the value chain are required in order to induce their suppliers and customers to change their own operating procedures. At the same time, they continually search for new suppliers and customers (systematically striving to lower barriers to entry in other links in the value chain) (Kaplinsky and Morris 1999, Porter 2000). The outcome growth in the division of labour requires that industries turn over an increasingly large geographical and institutional terrain to search for signature efficiency (Kaplinsky 2000).

d. Business Development Services

The KZN Furniture Industry provides enterprise development services in order to facilitate business processes; plant expansion; procurement of machinery; access to finance and incentives; support emerging enterprises and SMMEs through the incubation programme (Focus Project Managers 2011).

e. The incubation Training Programme

The incubation training programme focuses on the provision of skills training for unemployed members of the cluster. Business incubation is the key successful furniture manufacturing initiative. The starting point for this programme is for the prospective/emerging manufacturers to first identify their niche markets. The second phase would be to develop a bankable business plan (Focus Project Managers: 2011). This is a very streamlined selection process which will distinct the prospective emerging businesses and those that will collapse along the way. The last phase would be the placement of candidates in the existing furniture manufacturing businesses where mentorship takes place. The critical path for the incubation programme is to protect the market for the incubatees' thus ensuring low barrier to entry. The private sector partners play a significant role in supplying necessary raw material for manufacturing process and public sector will ensure the provision of infrastructure and sector markets for goods through the public procurement policy (Pickles 1991, McCormick 1999, Porter 2000).

During the incubation phase the emerging furniture manufacturers are pulled together in small groups in order to introduce specialisation such that products can be mass produced and economies of scale are maximised. This will ensure the possibility of undertaking orders of large quantities and increase competition with the large and established manufacturers (Focus Project Managers: 2011). The sector education and training authority; specialist service provider; Small Enterprise Development Agency (SEDA) and Durban University of Technology (DUT) will provide financial and non-financial support. The DUT will provide access to industrial design and industrial curriculum. The all-inclusive package provided in the skills development training is the basic business skills and advanced technical skills.

The technical skills include the following (Focus Project Managers: 2011):

- a. Furniture Design
- b. Production planning
- c. Health and Safety
- d. Machine Training
- e. Wood finishing training
- f. Upholstery training

The business skills training ranging from basic, intermediate to advanced level include the following (Focus Project Managers: 2011):

- a. Administration, sales and management skills;
- b. Business management and administration;
- c. Supervisor training;
- d. Sales and marketing;
- e. Customer care and aftersales service;
- f. Financial management (including accounting practices);
- g. Human Resource management, and
- h. Legal Compliance – Tax, VAT, contract, tenders, procurement procedures and more.

f. The Initiative goes green

The KZN Furniture cluster aims at assisting local furniture manufacturers to implement processes that contribute to energy efficiency, recycling of waste materials, and environmentally friendly manufacturing processes (Bumgardner, Romig et al. 2007).

This programme is implemented through a partnership with agencies such as eThekweni Energy Office and National Cleaner Production Centre. The partnership with the eThekweni Energy Office is to ensure that eThekweni Municipality's Greening Durban Programme is scaled in terms of (Focus Project Managers: 2011) by:

- a. Encouraging energy efficiency through assisting manufacturers to implement the municipal energy efficiency guidelines;
- b. Encouraging water conservation through assisting manufacturers to implement municipal water conservation guidelines, and
- c. Encouraging sustainable waste management through assisting local manufacturers to implement the municipal sustainable waste management guidelines.

Through a partnership between KZN Furniture Cluster and National Cleaner Production Centres (NCP-SA), the local furniture manufacturers are assisted in the following (Focus Project Managers: 2011):

- a. To contrivance Cleaner Production Techniques and
- b. Access services from National Cleaner Production Technique.

There is a great significant and persistent demand for furniture skill training by the informal economy. The report by Furniture Chamber of FIETA shows a demand for skills especially by SMEs in the furniture sector (Ceglie and Dini 1999). Based on the demand for skill development (Porter 1998, Riasi 2015), FIETA developed and implemented the following two programmes (FP&M SETA 2014):

- a. Furniture Manufacturing Skills Development Project (FMSDP) and
- b. Shintsha Furniture Project.

Unfortunately, both programmes were replaced by the SETA training programmes.

g. Benefits of cluster members

Small Medium Enterprises - The Furniture cluster was a dominant feature of Small Medium Enterprises that operated as individual companies that had a huge window of opportunity to benefit from the collective process throughout the value chain. In this instance, there were prospects to burgeon from the interaction with large firms in terms of technology transfer and innovation (KZNEDTEA, 2008).

Business Targeting and Cluster Marketing - The cluster ensured that there were consistent advertising and monthly newsletters delivered to various platforms in a bid to attract new members. The newsletter was aimed at exposing the good intentions and the programmes of the cluster and it was reported that every quarter of the cluster was attracting at least sixty (60) new members.

Cluster Development Training Workshops - The cluster provided a number of training including Design Capacity Workshops for members (Ceglie and Dini 1999). There were two separate categories of training: In the incubation training, there were 13 companies identified for training; 10 started, but only 3 completed. For post incubation, participants/SME went back to their respective areas to start their individual businesses.

International Best Practice - The Department of Economic Development, Tourism and Environmental Affairs played a significant role in bringing the Milano University, Italy, for best practices in Design and Innovation as applied in developed and developing countries thereby bringing international best practices to the local level (Enright 2003, Morris and Barnes 2007). This marveled opportunity (workshops) was extended to areas such as Richards Bay, Durban, and Pietermaritzburg. The reason for this was to transfer and to share skills across the province.

Timber Set-aside - The KZNEDTEA played a significant role in accessing resources from global markets. A Timber Set-Aside programme was established for cluster members in order to improve the availability of local stock (Barnes 2003, Bumgardner, Romig et al. 2007). The working relationship was established with a supplier from Helsinki, the increasing price of timber and the decreasing value of the rand over the past ten years have unfortunately made this source too expensive.

3.3.5. Risk Management/Challenges

It is crucial, in any organisation, to identify the challenges and alongside develop a risk management plan that addresses the eminent issues that could hinder growth and prosperity of an organisation.

- i. The critical set back faced by the furniture industry is the lack of ability to produce necessary primary processing and secondary beneficiation timber.
- ii. The transformation of growers to increasing small-scale community growers is a challenge to both round wood and saw log supplies. The increasing outcry by the industry regarding the state withdrawal from saw log production is a real threat to South Africa will have a shortage of supply of logs for its existing downstream and beneficiation based sectors (Pogue, Pogue et al. 2008).
- iii. The attraction of skills and international scarcities of engineers and other technical skills heightens this competitive environment in which enterprises in the furniture industry must compete against local and international intersectoral demand for priority skills (Russo 1999, Bumgardner, Romig et al. 2007).
- iv. The issue of the limited resources to support the SMME appears to characterise the lack of network and effective association. It is critical therefore to develop social capital that would support the competitiveness of the sector and the ability to respond to the challenge.
- v. The local furniture industry has unfortunately lost its global market share by moving from the 34th largest exporter in 2005 to 43rd in 2006.
- vi. This has been ascribed to the escalation of low-cost Asian imports, fading investment in skills development, technological innovation, insufficient research, and development funding – all resulting in the decline of levels of competitiveness in the industry (DTI, 2008).
- vii. There has been an outcry in the escalation costs of furniture manufacturing materials which have affected profit margins in the furniture sector. The global commodity prices that can be analysed include cotton, iron, steel, and aluminum. The change in the price of these commodities has a big impact on the performance of the furniture industry (Barnes 2003, Bumgardner, Romig et al. 2007).
- viii. The disruptive industrial actions, insufficient demand in external and/or domestic markets and serious competitiveness challenges at local factory

level due to rising input costs skills shortages and inadequate power supply have caused contractions in productions in 2013 (IDC, 2014).

Table 3.3: Challenges and mitigating factors

Challenge	Consequence	Early Indicators	Mitigating Factors
Inability to raise funds for operations and programmes	KZNFC failing to implement its strategic objectives	Capital and operating budget	Adopt pro-active approach to identify sources of funding; develop effective applications for funding and conclude Memorandum of Agreement (MOA) with the project sponsors
Inability to recruit resourceful board members with industry experience as well as managerial key staff	KZNFC failing to implement its strategic objectives	Recruitment programme of the board and key managerial staff	Pursue a well organised and transparent recruitment programme
Inability to deliver on strategic programmes	World economic meltdown	Decrease in international demand that leads to decrease in exports and local markets	Identify niche markets and manufacture differentiated products
Lack of Stakeholder buy-in regarding the identified programmes	The KZNFC will unfortunately not contribute sufficiently to the growth and development of the furniture industry	Proper project scoping, feasibility studies, bankable business plans for each project, marketing and communication plan for the organisation and stakeholder engagement through workshops and training	Regular engagement with industry role-players; deploy enough resources in developing proper strategies for the organisation in order to ensure sustainability and growth

Source: KZNEDTEA (2008)

Table 3.3 illustrates the challenges and risks already deliberated above. The table provides the eminent challenges and consequences that might be hindering growth and development of the sector, the early warning signs that might be associated with risks and the mitigating factors thereof.

3.4. Maritime Cluster

3.4.1. Overview of the Maritime Industry

The maritime industry is the pillar of the South African international trade which is estimated at 12, 000 deep-sea trading vessels that frequently arrive on South African ports. The trading vessels carry about 98% of the country's cargo to the world (KIMS 2015). The maritime industry contributes about 67% of South Africa's GDP. It is a known fact the Port of Durban is South Africa's largest port with regards to the Value of cargo handled and a number of vessel arrivals per annum. At least 20% of the GDP contribution is derived from the maritime sector and other associated industries. At least 55% of the KwaZulu-Natal GDP is derived from Durban which constitutes 15% of the country's GDP. Therefore it could be concluded that the maritime industry in Durban contributes between 1.5 to 2% of the national GDP. The overall contribution in term of value by the maritime sector is estimated between R25bn - R35bn of the local GDP (KIMS 2015). The Durban port handles over 4 700 commercial vessels per annum. This is the highest number in South Africa, equating to over 74 million tonnes of cargo per year. The following is the summarized statistical capacity of the Durban port (KIMS 2015):

- a. 2.57 million TEU;
- b. 2.7 million tonnes of breakbulk cargo;
- c. 9.5 million tonnes of dry bulk cargo;
- d. 2.0 million tonnes of liquid bulk (non-petroleum products);
- e. 26.5 million kl of petroleum-based liquid bulk (crude oil import via SBM); and
- f. 460 000 vehicles.

The maritime sector has grown tremendously in recent years and it has been seen as the main teamster for economic development, trade promotion and the growth in the newly industrializing countries (NICs) such as Brazil, India, China and South Africa (Köhler 2014) The unfortunate part is that the least developed countries (LDCs) have received less focus in the marine and trade.

3.4.2. Industrial Clustering best practice

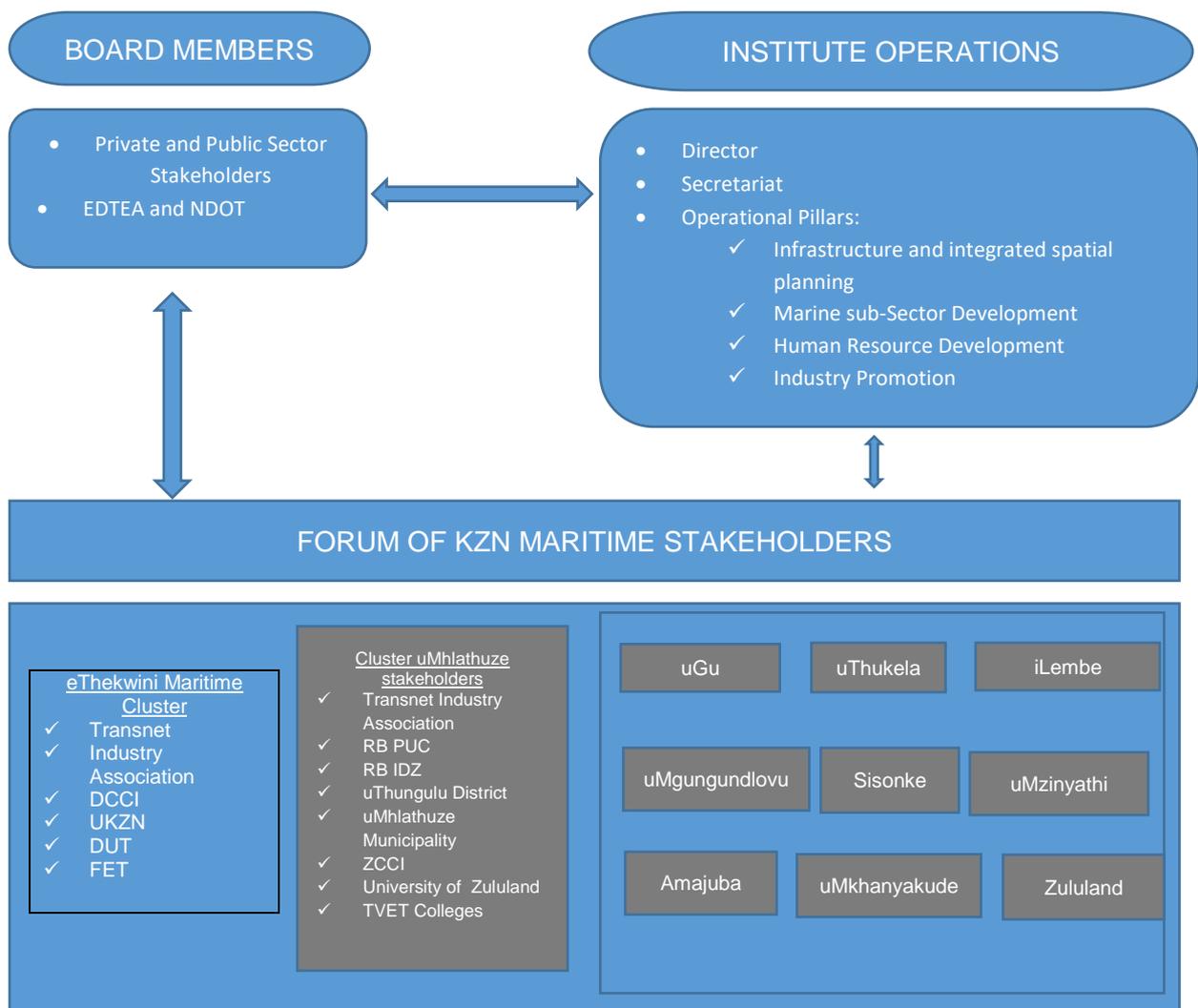
The maritime sector comprises various economic activities which encompass manufacturing to tertiary activities in trade facilitation and specialist business services (Viitanen, Karvonen et al. 2003). The maritime value chain has enormous niche economic opportunities which require specialist skills capacity. The industrial clustering model seeks to provide the link between the industry structures that are affiliated or linked to each other in order to increase the reliability, the dissemination of knowledge, technological spillover and innovation in the production processes of goods and services (Porter 2000, Scheel 2002, Tallman, Jenkins et al. 2004, Ozgen 2011). The international best practices reveal that there is a great potential to increase the efficacy of logistic processes with cooperation through clusters (Wijnolst 2006). The outcome of this could be associated with the increased sales, profit, product innovation, and quantity and quality factors. The main goal in establishing cluster organisations is the fixation of a structure that provides clear solutions for cluster-related issues such as the labour market, irrespective of the cluster's initiator (Morris and Barnes 2007, Smit 2010). The main issues on the basis of the establishment of a maritime cluster were to increase competitiveness, to promote all maritime sub-sectors and to improve cluster coordination. The organisational structure of these organisations was dependent on a different climate and environment, influenced by traditions, history, culture, governmental structure and driving sectors (KIMS 2015).

3.4.3. Governance and Institutional Arrangement

The Department of Economic Development Tourism and Environmental Affairs together with the strategic partners have developed a KwaZulu-Natal Integrated Maritime Strategy (KIMS) that has unleashed a number of strategic interventions ranging from different options of institutional arrangements that need to be considered (KIMS 2015). The current institutional arrangement is the KwaZulu-Natal Maritime Cluster which is a section 21 (Non-profit company) not for gain.

The cluster has a board of directors that is autonomous in terms of functioning and decision making. The KIMS recommended the establishment of a special purpose vehicle that relates to the development of a KZN Maritime Agency. The recommendation further holds a view that the government has a critical mandate of creating an enabling environment and encourage the facilitation of trade platforms. A public entity was suggested to be formed in terms of the PFMA under Schedule 3C entities (which rely on government funding and public monies). The public entity under schedule 3C is guided by the parent department that is essential in safeguarding the public funds and ensures the service delivery to the public.

Figure 3.11: The structure of the KwaZulu-Natal Maritime Agency



Source: Adapted from KwaZulu-Natal Integrated Maritime strategy (2015)

Figure 3.12 depicts the institutional arrangement that is proposed for future expansion and growth of the maritime sector. It has to be mentioned that the eThekweni Maritime Cluster is being hosted by eThekweni Municipality and uMhlathuze Maritime Cluster is hosted by uThungulu District under the uMhlathuze Municipality. It is not by default that the two clusters are hosted by the two districts but it is by virtue of the location of the two ports that is Durban and Richards Bay Port terminals (KIMS 2015). There are other Maritime role-players that are linked with the each of the two clusters. These players are the main producers or manufacturers of various goods and services (McCann, Arita et al. 2002, Titze, Brachert et al. 2014). Therefore each district will have its market share in terms of feeding and benefit from the proposed institutional arrangement. It must be said and acknowledged that there is already trade taking place between the two ports and the nine (9) districts

3.4.4. Organisational competitiveness

New strategies and programmes for the maritime sector were identified jointly by the Department of Economic Development, Tourism and Environmental Affairs, eThekweni Municipality as well as the allied industry which has the impact on the sector hence the establishment of the eThekweni Maritime Cluster. The government has recently developed new programmes that are destined to respond to the sluggish economy and the changes in the regulatory environment such as maritime strategy and logistics. This programme is called Operation Pakisa and it is destined to grow the economy and thereby creating sustainable jobs The strategic thrust of the eThekweni maritime sector is to re-enforce the working relationship with the maritime logistics industry in order achieve the following (EMC 2015) and (Wijnolst 2006):

- a. To package potential priority projects;
- b. To provide a platform that integrates the need of the industry role-players such as transport owners, customers as well as policymakers in order to deal with the issues of infrastructure development;
- c. To provide an integrated approach in pulling together government programmes at all spheres;
- d. To promote the development of the industry initiatives;
- e. To benchmark the value chains of cargoes moving through Ports in order to improve efficiencies and competitiveness;

- f. To promote skills development for the maritime industry in a bid to provide opportunities to people to enter into the mainstream economy of the maritime sector;
- g. To ensure transformation growth of small and medium enterprises within the maritime sector;
- h. To improve maritime safety, health, and environmental management, and
- i. To provide support to the ship repair, boat, and shipbuilding since they are labour absorptive.

The National Development Plan (2014) and Provincial Growth and Development Plan (2015) have developed a relative 'apex indicators' that has identified numerous opportunities within the maritime industry. The definitive outcome is the creation of sustainable jobs and ensures economic growth in the KZN province.

Table 3.4: Indicators and targets that relate to the Maritime Industry

Primary indicators	Baseline	Targets			
	2010	2015	2020	2025	2030
Ports Capacity measured in million TEUs	2.5m	3.2m	6m	8.8m	9.5m
Ports Capacity measured in Dry Bulk volumes	2.5m	3.5m	6.0m	9.0m	12.0m
Port capacity measured in containers (Crane handling moves crane hour)	26	30	33	36	40
Port Capacity measured by number of Cruise Liner visits	TBD	TBD	TBD	TBD	TBD
Total number of TEUs on Natcor rail line	400 000	600 000	1 222 600	1 833 900	2 750 900
Road to rail ratio out of Durban	4.12:1	3.5:1	3:1	3:1	3:1

Source: Adapted from Transnet Ports Authority CRM data (2010)

Table 3.4 above indicates that by 2030 there should be an increased capacity in terms of dry bulk volumes, the crane handling moves of the containers measured in hours, a number of Cruise Liners visits and the road to rail ratio out of Durban (Transnet Port Authority 2010). In summary, the contribution of the maritime industry must be monitored and evaluated in order to ensure economic growth and increased employment in the KZN province (KIMS 2015).

3.4.5. The Maritime Cluster interventions identified along the Value Chain

There are a number of economic activities within the maritime value chain which is highly complex. The following are a number of job opportunities for industries along the value chain (Baldwin 2006, Gereffi and Frederick 2010, De Backer and Miroudot 2014) that benefit from each container cargo landed in Durban Port Terminal (KIMS 2015): the bunker industry, road hauliers, the clearing and forwarding firms, container depots and logistics operators, the ship repair industry, ship chandlers, ships' agents and stevedores all interact and derive economic benefit (Viitanen, Karvonen et al. 2003, Tseng, Yue et al. 2005). The cargo owners are in turn de-stuffing the container and supply a myriad of other economic benefactors (like the manufacturing industry, textiles, retail, food and more).

The EMC manages interventions along this value chain, in ensuring maximization of the economies of scale in benefiting both the operators and their strategic customers (Staszewska 2010, Titze, Brachert et al. 2014). Therefore the chain is complex and economic activities vary along the chain (R 1992, De Backer and Miroudot 2014) in accordance with the nature of the cargo and the location of the end-user. To identify specific locations of interventions along this highly convoluted and involved value chain is premature to this initial clustering process (Humphrey 2001, Jacobs, Chase et al. 2004). Therefore the shift of focus has been placed on cultivating the productivity of operations (Jacobs, Chase et al. 2004, Heizer 2016) through the identification of 5 cross-cutting themes of interventions along the value chain. The holding view is that the market players such as shipping lines, stevedoring companies, inland transport operators, and forwarders should re-consider their part in the logistics process as there are imminent changes in the supply chains and logistics models (Notteboom* and Rodrigue 2005).

The following are four laboratories which are identified by the maritime strategy in a bid to encourage economic transformation (KIMS 2015):

- a. Marine Transport and Manufacturing (MTM);
- b. Offshore Oil and Gas exploration (O&G);
- c. Aquaculture (AC); and
- d. Marine protection services and Ocean Governance (MPOG).

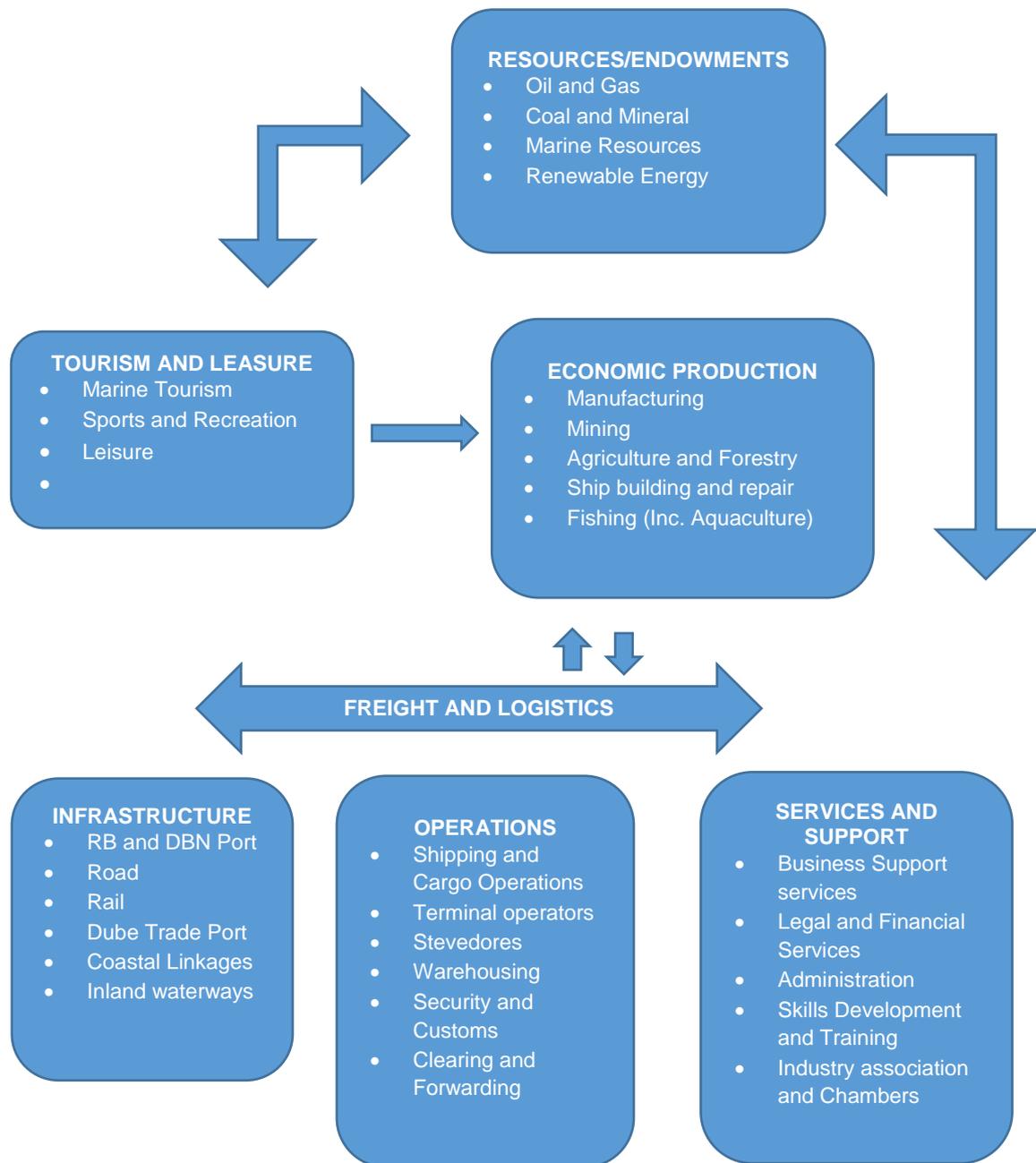
There are implementation plans developed for each laboratory. They are rigorously monitored and continuous reporting is provided. The challenges that are identified during the implementation process are carefully monitored in an effective and efficient resolution. The maritime industry (Tseng, Yue et al. 2005) is acting a pivotal role in enhancing the competitiveness of the international freight. It is one of the preferred modes of transport that provides low costs and reasonable carrying capacity transference for consumers. Without a doubt, maritime industry plays a significant role in the conveyance of goods such as crude oil and grains. The eThekwini maritime Cluster has intensive programmes earmarked for its members. These programmes comprise Training and development; Boatbuilding and ship repair; Enterprise Development; Industry Promotion; Research, Development and Knowledge management.

Table 3.5: The Maritime Cluster programmes

Challenge	Consequence	Early Indicators	Mitigating Factors
Inability to raise funds for operations and programmes	KZNFC failing to implement its strategic objectives	Capital and operating budget	Adopt pro-active approach to identify sources of funding; develop effective applications for funding and conclude Memorandum of Agreement (MOA) with the project sponsors
Inability to recruit resourceful board members with industry experience as well as managerial key staff	KZNFC failing to implement its strategic objectives	Recruitment programme of the board and key managerial staff	Pursue a well organised and transparent recruitment programme
Inability to deliver on strategic programmes	World economic meltdown	Decrease in international demand that leads to decrease in exports and local markets	Identify niche markets and manufacture differentiated products
Lack of Stakeholder buy-in regarding the identified programmes	The KZNFC will unfortunately not contribute sufficiently to the growth and development of the furniture industry	Proper project scoping, feasibility studies, bankable business plans for each project, marketing and communication plan for the organisation and stakeholder engagement through workshops and training	Regular engagement with industry role-players; deploy enough resources in developing proper strategies for the organisation in order to ensure sustainability and growth

Source: Adapted from eThekweni Maritime Business Plan (2015)

Figure 3.12: KZN (Provincial) Maritime Value Chain



Source: Adapted from KwaZulu-Natal Integrated Maritime Strategy 2015

Figure 3.13 indicates the elements that feed into the KZN maritime value chain and are further classified on the basis of bulk, break-bulk, containerized cargo, and automotive (KIMS 2015):

a. Dry Bulk

In this instance coal, for example, is loaded into the vessels using conveyor belts. The dry bulk products are non-differentiated products that include coal, sugar, maize, malt, and wheat (KIMS 2015). The Richard's Bay Port main trading commodity is coal and is handled at the Richards Bay Coal Terminal (RBCT). The RBCT can handle at least 2 million masses of coal per annum. The Durban Port also handles small batches of coal. Single industries that are geographically isolated are linked by the Global value chains hence trade and production is encouraged (Porter 2000, De Backer and Miroudot 2014). The KZN maritime value chain has some challenges and associated costs. For example, the South African coal deposits come from Witbank and Ermelo in Mpumalanga. The transportation costs are a major hurdle in delivering commodities between the mines and coal terminals (Tseng, Yue et al. 2005). There is an outcry of rail inefficiencies where there is an absolute demand for rail as indicated by Transnet, in their Market Demand Strategy. Transnet needs to, therefore, invest in the integrated transport system to ensure greater movement of commodities efficiently and effectively. Global value chains should encourage policymakers to take charge of the backward and forward linkages of the economies (Schmitz 1999, Kaplinsky, Morris et al. 2002). This encourages export competitiveness in terms of delivering commodities efficiently to the final consumers. The gap between policy and the reality of business should be closed to ensure that the concept of GVCs is thus important and understood in a bid to provide policymakers in the field of trade, industry, and innovation with new data and analysis (De Backer and Miroudot 2014).

b. Break Bulk

The second batch of commodities within the KZN maritime value chain is the break-bulk which include the packaged different parcel sizes, such as pallets or bags. Some of these commodities encompass packaged bagged rice; citrus (palletized); electrical appliances (palletized) and wood pulp products (KIMS 2015). Recently these commodities are now migrating into containerized traffic, which typically requires less specialised equipment for handling as well as offering an easier stacking option.

The Ports of Durban and Richard's Bay are the handlers of these commodities. The citrus oranges are the highly competitive commodities for export markets. The South African citrus industry has developed a sustainable value chain, especially in transport through ocean freight (KIMS 2015).

c. Containerised cargo trade

Port of Durban is the biggest containerised cargo terminal on the African continent. The liners prefer to use Port of Durban because of the advanced technologies of lifting equipment to load and unload containers from vessels. Customs (SARS) plays a significant role in ensuring that no illegal imports take place at the South African shore (KIMS 2015). The Port of Durban plays a significant role in the cabotage and transshipment. It is referred to as the containerised cargo transshipment hub (Notteboom* and Rodrigue 2005). The Port of Durban will remain as a transshipment hub for Southern Africa even though there are plans to grow Ngqura. This attested to the fact of the size and the volumes of containerised trade handled by the Durban port. In order to maximise the transport and logistics efficiencies, the Durban port require further strategic investment (KIMS 2015).

d. Automotive Sector value chain

The KZN port system accommodates automotive cargo that includes all imports and exports of fully made up cars. The Durban and Richard's Bay port terminals using the breakbulk system for specialised automotive products and therefore the Gauteng automotive industry bank on the Port of Durban export of completed and partially completed vehicles for imports and exports (Viitanen, Karvonen et al. 2003).

e. Benefits of joining the Maritime Cluster

According to (Porter 1998, Notteboom* and Rodrigue 2005, Staszewska 2010) the following are the benefits of clustering for the maritime sector:

- a. enhancing the position before non-local subjects;
- b. cost reduction;
- c. increasing innovation;
- d. enhancing services offered including extending distribution channels;
- e. increasing the degree of actions specialization while at the same time strengthening cooperation;
- f. increasing attention towards products quality;
- g. improving organisational processes, mainly customer service;
- h. Increasing the availability of financing means, and extending enterprises integration.

3.4.6. Challenges of the maritime industry

The maritime sector is known for taking longer hours for transportation and as such its schedule is strongly linked with the weather factors which could be the disadvantage factor. Many maritime logistics companies tend to use large scaled ships and obliging operation techniques in order to save costs and enhance competitiveness (Viitanen, Karvonen et al. 2003). Most of the maritime companies have to re-align themselves with the concerns of their customers such as service quality rather than the delivery price (KIMS 2015). It is therefore suggested that the maritime firms should increase service satisfaction through the building of the new logistics concepts, for example; real-time information, accurate time windows, and goods tracking systems (Schmitz and Nadvi 1999, Tseng, Yue et al. 2005). The Liner shipping and Tramp shipping are usually unscrupulous in transport price; having unsteady routes and schedules. For example, they carry commodities such as Dry Bulk Cargo and crude oil. There is a contestation from cluster members that the formation of the eThekweni Maritime Cluster is voluntary and not mandatory. The government, therefore, is not the representative of the cluster to lobby members on their behalf (Morris and Einhorn 2008). This becomes a challenge as there is a lack of confidence in some members who feel that the cluster will not be effective in dealing with the existing issues at a provincial and national level (Barnes 2003, Morris and Barnes 2007). Therefore the issues of lobbying and cluster authority remain a cause for concern. The eThekweni Maritime Cluster is, therefore, lobbying government for political will in order to deal with the issues within the maritime sector, and support for structures such as the EMC. There has been an unwavering support from both national and provincial government to all the initiatives relating to maritime sector hence the establishment of the Operation Pakisa (KIMS 2015).

3.5. Music Cluster

3.5.1. Overview of the Music Industry

KwaZulu-Natal has a rich and vibrant music culture, especially in traditional genres like Imbube, Isi'cathamiya and Maskandi. However, in terms of an industry, the KZN music industry is hopelessly underdeveloped. There are many reasons for this but they can be generally attributed to a lack of a Music Business infrastructure (Urban-Econ 2007). This includes artist management, promotion, and development, music publishing, marketing and distribution.

There is virtually no regional presence of the major labels, and what does exist is the focused distribution of product to retailers. In short, there is practically no record company, artist and repertoire (A&R) development in KZN. Artists are compelled to fund their own demo recordings and are then left with masters (devices) to shop around to the small local labels, which inevitably have very limited resources, or go to Johannesburg in the hope of attracting the interest of the major labels, along with thousands of other aspiring hopefuls (Urban-Econ 2007). The Universal and Sony music is regarded as the major entertainment conglomerates which play a significant role in the generation of income for the music industry. Though there are other small independent record labels that also deal with a niche market in certain genres such as Kwaito, boere music and more. The world's biggest market share in terms of music publishing is split between the following countries (Throsby 2002).

Table 3.6: Publishing and Royalties

Country	Market Share
USA	29%
Japan	12%
Germany	12%
UK	10%
France	9%

Source: Adapted from (Throsby 2002)

Table 3.6 indicates that the US, Europe, and Japan have dominated the world music and Africa is not appearing on the table since its contribution comprises only 0.5% which is not significant enough for local artists to make a sustainable living out of their craft (Throsby 2002).

3.5.2. **The world growth and performance of the Music industry**

Firms in the worldwide recorded music industry can be divided into two broad types, the five 'majors' (Universal Music Group, Warner Music Group, Sony Music Entertainment, Bertelsmann Music Group and EMI) which, with one exception, are divisions of multinational entertainment conglomerates and have a combined global market share of 76% (IFPI, 2001), and the smaller, more locally specific firms, known as 'independents' (Garofalo 1993). There are several setbacks faced by South African Musicians more especially regarding the markets for recorded music. In the midst of these challenges, there are emerging markets which show the sluggish growth. Therefore the South Africa recorded music sector fell by 5.8 percent in 2012, ending its status as a top 20 global market (IFPI 2001). The world music fraternity holds South African music industry in high regard as one of the major leagues in the African continent in respect of the repertoire creation and with its music portraying cultural diversity (IFPI 2001). For example, the reflection of cultural diversity in music is represented by renowned artists such as the acapella group Ladysmith Black Mambazo, singer and songwriter Zahara, Jack Parow, the Parlotones and these contributions are unnoticed. The information and communication technology plays a significant contribution to the sluggish growth and development of the music industry in South Africa (PWC SA 2012).

The emergence of ICT gave advent of the new distribution channels such as iTunes and Simfy. This did not come handy to the customers as the data costs are still high which created hindrance in terms of accessing music online. Unfortunately, the Fourth Industrial Revolution is here to stay (PWC SA 2012). In the midst of these challenges, the South African Music Industry continues to produce high-quality music. This was evident in the increased in RISA membership from 500 to 200 in the last past five years and this was due to the new members releasing new singles. The broadcasters also tabled their challenges regarding the payment of royalties to South African Performance Rights Association. The integral part was the protection of the intellectual property right of the artists (Ambert 2003). The positive about this is that the South African government is aware of this and with the pirated music. The challenge was that it was too costly and time-consuming to crack down the perpetrators but the industry suffered another setback in terms of accruing benefits out of their craft (PWC SA 2012).

The Companies Intellectual Property Commission (2014) amended the Act in order to provide a new meaning in the South African Music Industry especially the benefits that are to be accrued to local artists. The industry is seeking protection from the government through the enforcement of the 20 percent international airplay and 80 percent of the local music. These structural changes will redefine the business model of music in terms of the return on investments. The following were the plights of the industry seeking protection from the government:

- a. Illegal downloads of music;
- b. Piracy (Unlicensed services using broadband, and
- c. Biased competition.

The industry was optimistic that once the above issues were addressed there will be growth and prosperity in terms of the digital increase in revenue.

3.5.3. Comparison and Benchmarking

a. South Africa

The Music industry in South Africa has suffered another setback in terms of the online piracy as associated to the countries. The issues of low-speed ICT (broadband) penetration parallel to the international markets has hindered growth and unfortunately, the consumers hold a different view regarding piracy as it is harmless (Throsby 2002). There was a number of efforts and campaigns directed in educating the consumers about the committed crime and the legal implications (Rogerson 2006). The unfortunate circumstance is that these efforts failed to change consumers' discernment (PWC SA 2012). In 2013, UNCTAD published figures for World Creative goods and services which amounted to a record of US\$624 billion in 2012 portraying a growth rate of R8.8 percent since 2003.

Further, the US creative exports of goods and services amounted to US\$ 30 billion in 2010 (Chapain, Clifton et al. 2013, Pratt and Hutton 2013). The local creative industries including music, unfortunately, did not enjoy those benefits as the South African creative exports of goods and services amounted to only US\$ 351 million (R5.4 billion) and further US\$ 2 billion (R31 billion) was imported. Therefore out of the R5.4 billion of creative industries, only R2.2 billion is accounted for music (PWC SA 2012). The physical, digital and live music are the critical elements that constitute the R 2.2

billion. Therefore the physical distribution of music is no longer an integral part of the music industry as digital downloading is propelled by growth in broadband smartphone penetration (www.ifp.org/south-africa.php).

b. Nigeria

In 2012, more than R421 million (US\$51.3 million) was made by the Nigerian music market up from the 2008 revenue of R369 million (US\$45 million) (Pratt and Hutton 2013). The Nigerian music industry forecast is estimated at a compound average growth rate (CARGR) of 0.9% to reach R441 million (US\$53.8 million) in 2017 (www.ifpi.org/south-africa.php). The issues of piracy and illegal downloading of music are not very rife in Nigeria as compared to South Africa. In 2017, it is estimated that the digital downloads will increase from 49% to 66% as a result of the available high-speed broadband and also MTN is playing a significant role in streaming music (PWC SA 2012).

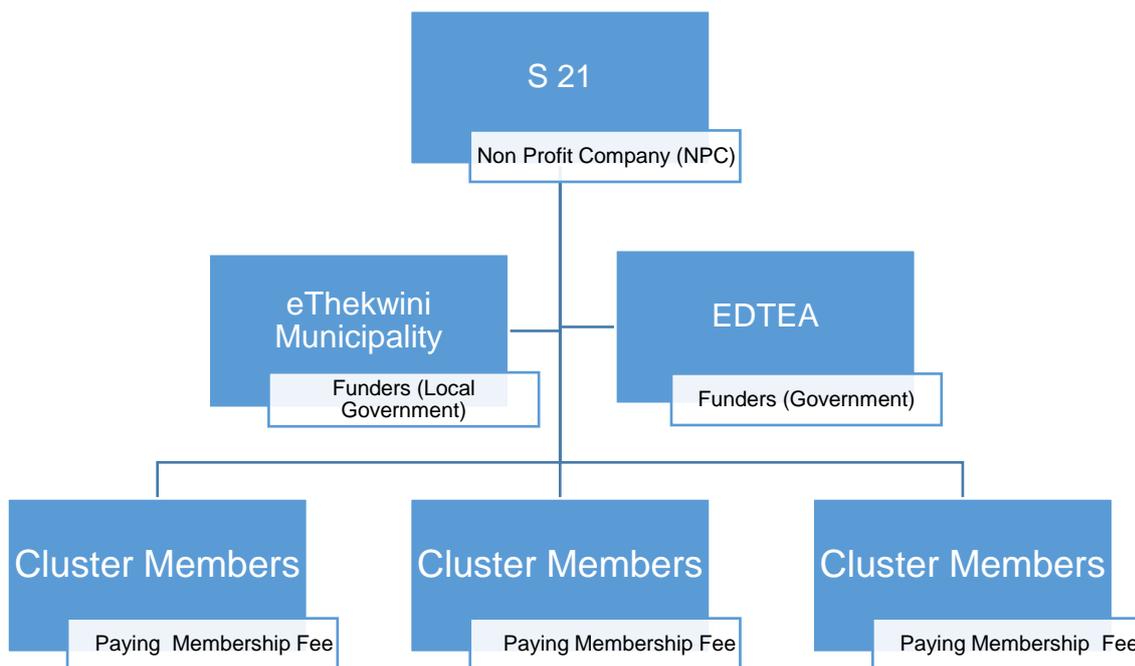
c. Kenya

In 2012 the Kenyan music industry recorded sales of R163 million (US\$19.8 million) up from R135 million (US\$16.5 million) in 2008. The fascinating point is that in 2015 the industry generated R170 million (US\$20.7 million) (Chapain, Clifton et al. 2013). It is projected that there will be a fall back to R165 million (US\$20.1 million) by 2017 and this is due to the digital downloading spending as compared to the physical distribution and spending (www.ifpi.org/south-africa.php) and PWC SA 2012).

3.5.4. Governance and Institutional arrangement

The KwaZulu-Natal United Music Industry Association (KUMISA) has a board of directors hailing from different parts of KwaZulu-Natal province. KUMISA is a paying membership organisation which has more than 2130 audited members across the province. The organisation represents the plights of the music fraternity of KwaZulu-Natal. The KMISA is a Section 21 (Non-Profit Company) registered with the Companies and Intellectual Property Commission (2008) in Pretoria. The following is the structure of the board of directors:

Figure 3.13: KUMISA Board of Directors



Source: Author

Figure 3.14 depicts the structure of the music cluster which is legally constituted. The governance of the institution draws is drawn from Kings IV which is in line with the Companies and Intellectual Property Commission as amended in 2008. Government and Private sector invest valuable resources into KUMISA in return of getting quality music, high calibre musicians, job creation and sustainability of music business.

The following are the aims of KUMISA (2015):

- a. To Promote – KUMISA believes that KZN Artists have to be afforded an opportunity to promote and showcase their craft in various platforms without hindrances.
- b. To Protect – The rights of the musicians and practitioners throughout the value chain should be protected by relevant prescripts and pieces of legislation such as Intellectual Property Law.
- c. To Invest – KUMISA has a mandate to ensure that its members are given necessary information through the informative workshops and seminars, lobby and encourage various stakeholders to invest in the development of Music Precinct, provision of music venues and platforms to perform.

3.5.5. **Organisational Competitiveness of the KZN Music Cluster (KUMISA)**

Figure 3.7 depicts KUMISA organisational competitiveness. KUMISA has got one goal which is the sum total of the aspirations of the industry cluster. The shared common goal by the industry usually binds the industry cluster together as the social network (Chapain, Clifton et al. 2013, Fowler and Kleit 2014). Porter asserted that the industry cluster tend to develop strong working relations if the holding company such as KUMISA provides service that are binding related industries together. The classical example is the recording studio which could be surrounded by backline singers, writers, producers, SAMRO and RISA offices, CAPASSO, copyright lawyers are all located in one premises in order to maximise the economies of scales (McCormick 1999, Ambert 2003).

Table 3.7: Music Industry Competitiveness

Measurable Objective	Short-term Goals	Long-term Goals
<p>To Serve and represent the interests of the music industry in KwaZulu-Natal, nationally and Internationally</p>	<p>Lobby and ensure the increase in membership</p>	<p>Lobby policymakers such as government in ensuring a better life for the musicians</p>
		<p>Improve and invest in infrastructure development by lobbying resources from government and private donor agencies. There is limited access to music venues and high-class recording studios.</p>
	<p>Dissemination of information to all members an update on the current changes in the regulatory environment such as the Amendment into the Intellectual Property Law that will appreciate the artists benefiting more from royalties and performances.</p>	<p>To conduct continuous research and development relating to industry contribution in terms of job creations, GDP, local and international benchmarks and growth of the sector</p>
		<p>Develop a regulatory framework in terms of live performances and airplay (80% local music and 20% international by IP law)</p>
	<p>Knowledge management such as a database of all registered members, a listing of weekend gigs on social media platforms, build a repository of information about the current news and archived stories.</p>	<p>To properly represent the industry by ensuring that the collecting societies distribute royalties in a fair and equitable manner to those that are to be paid.</p>
		<p>To enhance the competitiveness of the music industry by ensuring continuous improvement in</p>

		all genres, improving technology and engage in a dialogue for distributing music online.
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Source: Adapted from KZN United Music Industry Association Business Plan (2015)

a. Membership Development – In order for KUMISA to be competitive, there was a number of programmes that were implemented in a bid to attract new members and ensure that the current members enjoy the benefits of joining KUMISA. KUMISA has joined forces with the reputable organisations such as Metro FM in staging various events and workshops. KUMISA enjoyed massive coverage from local newspapers and TV Lifestyle programs such as Mzansi Magic – Vuzu Entertainment and SABC 1’s Real Goboza who showed snippets of the event in one of their Saturday programmes/episodes; the event also trended on social media platforms (KUMISA annual report 2015).

b. Networking and Strategic Alliances – KUMISA has, over the years, strategically located itself as an industry leading organisation by aligning with major players in the local music industry and business sector at large.

Table 3.8: List of Strategic partners for KUMISA

Name of Organisation	Service offerings
Metro FM	Radio and broadcasting (Lifestyle and commercial radio station)
Izwi Lomzansi and Vibe FM	Community radio station
Gagasi 99.5 FM	Radio and broadcasting (Lifestyle and commercial radio station)
SABC	Incorporates Radio and Television (SABC1,2 and 3)
Channel O; Trace, VUZU, MTV etc.	Music Video Channels
East Coast Radio	Radio and broadcasting (Lifestyle and commercial radio station)
SAMRO; CAPASSO; RISA AIRCO	Collecting societies (Royalties and publishing fees)
Wushini Arts Centre; Indonsa Arts Centre; BAT centre; Playhouse Company; Durban Music School; K CAP Arts Centre	Arts centres which provide access to performance venues
eThekweni Municipality; EDTEA; DAC	Spheres of government that provides financial and non-financial support
MACUFE; MUSHITO; KZN Music Imbizo; Cape Town Jazz Festival and Ugu Jazz	Festivals and conference organisers
KZN Music House; KZN Fashion Council and KZN Film Commission	Strategic organisations that complement each other (Fashion, Music, and Film)

Source: Author

Figure 3.8 highlights the strategic partners that KUMISA is working with in a bid to leverage support for its members in terms of financial and non-financial support.

The list of organisations is indicative of the strong working relations with KUMISA which enables KUMISA to effectively discharge its mandate of building a vibrant music industry in KwaZulu-Natal province. The working relationship with these organisations has enhanced the competitiveness of KUMISA members by benefiting in an array of opportunities and information such as capacity building workshops in understanding the value chain of publishing, scheduling, royalties (Chapain, Clifton et al. 2013, Pratt and Hutton 2013). In actual fact it allows members to gain knowledge and experience on how to sustain their craft beyond their career.

c. Skills Development, Capacity Building and Business Incubation

- i. **Skills Development** – Through a number of Music Business Workshops, KUMISA has been able to provide a six (6) months step by step “DIY” programme in partnership with ONEXUS Music Business Solution. This programme provides emerging artists on how to grow and sustain from elementary recording phase to the delivery of a final product (songwriting, pre to post-production), submissions to collecting societies, publishing, business opportunities and much more). KUMISA Annual Report 2015). KUMISA has developed a Master Class programme for artists’ managers and publishers which will serve as a revenue stream programme to augment limited resources. The move of such a programme was that a number of artists endeavour to manage themselves without understanding the real fundamentals of music business such as building a sellable brand, creating a demand for music such as Ladysmith Black Mambazo who are the renowned international brand (KUMISA annual report 2015). KUMISA has also developed publishing master classes which seek to address the pertinent issues of revenue collection by the music industry. International brands such as Sheer Publishing and Seymore Stein (Vice President of Warner Music) also provided master classes regarding publishing (KZN Music Imbizo 2016). KUMISA took upon its shoulders to unearth valuable information from SABC Radio Stations regarding the procedures of submitting a CD for playlisting. The SABC requires an ISRC Code and Publisher details for every CD / single submitted to the station. At most times the artists would confuse a publisher with SAMRO or CAPPASSO.

The two are different. In actual fact, in publishing it is where money is made (KUMISA Annual Report 2015).

- ii. **Incubation** – The incubation programme provide the in-depth training support to selected members with an aim of growing their businesses, self-supporting and being profitable (UNCTAD 1998, Schwab and Sala-i-Martin 2010). The benefits of the incubation are that it reduces the risks of failure during the infant stage.

The following are services provided during the incubation phase:

- ✓ Provision of rentable space;
 - ✓ Assistance in product/process identification and development;
 - ✓ Access to the KUMISA Recording Studio, meeting and boardroom facilities;
 - ✓ Shared administrative services;
 - ✓ Technical training, counseling, mentoring and coaching;
 - ✓ Technology transfer, demonstration, and commercialisation;
 - ✓ Assistance in marketing and communication with stakeholders/clients;
 - ✓ Assistance with financial matters and obtaining finance;
 - ✓ Access to the KUMISA Accountant / Bookkeeper;
 - ✓ Assistance in developing the export readiness of music businesses/SMMEs, and
 - ✓ Knowledge Management.
- iii. **Marketing and Promotion** – In past eight years KUMISA has forged working relations with various stakeholders especially the media houses including print and electronic media (KUMISA Annual Report 2015):
 - a. SABC Radio and Television – Metro; uKhozi; SABC1 Lifestyle programmes;
 - b. Mzansi Magic – Vusu and BET Magazine Lifestyle programme – Channel 161;
 - c. Lifestyle Magazine – Drum
 - d. Print Media – iLanga; Sunday World and Isolezwe

KUMISA has enjoyed national publicity from the strategic partnership with the SAMA Awards to co-present the Best Maskandi Award with Ukhozi FM on the 4th of June 2016. KUMISA has worked from leaps and bounds in a bid to raise the profile of the local artists and to ensure the maximisation of the economic opportunities accrued by the media (KUMISA Quarterly Report 2016).

- iv. **Fund-Raising and Income Generation** – Currently, the KZN Economic Development, Tourism and Environmental Affairs (EDTEA) is the main project sponsor and the founder of KUMISA. There is a robust sponsorship and fundraising drive by KUMISA in a bid to raise more resources for unfunded programmes.
 - a. The following were the entities which have been approached for funding and support (KUMISA Annual Report 2015):
 - b. eThekweni Municipality;
 - c. UGU District Municipality;
 - d. UMkhanyakude District Municipality;
 - e. National Lottery Commission;
 - f. National Arts Commission;
 - g. Arts & Culture Trust (ACT), and
 - h. The Department of Arts & Culture (both national and provincial).

The robust sponsorship and fundraising drive also include the highly anticipated fundraising gala event that includes awarding the legends across the diverse music value chain of KZN such as producers, artist managers, industry practitioners, venue owners, festival organisers, educational institutions, music manufacturers, and retailers.

3.5.6. **Challenges**

- There was a financial setback during the 2015/2016 financial year wherein the Durban Film Office pronounced the withdrawal from funding KUMISA (KUMISA Annual Report 2015). The organisation was on the brink of shutting down. Additional resources are critical in pursuing the vision of the organisation.

- There were a number of stakeholders and organisations that were misunderstanding the strategic goals of KUMISA. Some are holding a view that KUMISA is the Creative Workers Union of South Africa (CWUSA) which is not the case. This posed a challenge of mobilising and disseminating correct information on the ground.
- Due to structural changes within KUMISA such as the resignation of board members, this has affected the operations of the organisations. There have been delays in forwarding monthly, quarterly and annual reports to the main funder as per the signed memorandum of agreement.
- KUMISA was faced with some challenges in implementing the incubation and establishment of the mini recording studio due to limited space and resources. In mitigating the prevailing situation, there were commitments made by SEDA and the provincial Department of Arts and Culture.
- There was a common cause for concern that even though KUMISA received unwavering support and acknowledgment from various industry bodies but there was still a huge responsibility of taking a leading role within the province in the development of strategic policies, pieces of legislation and prescripts. This gave members confidence for the organisation to continue to lead on such strategic matters.
- As most of the KUMISA Board Members were individuals hailing from music organisations and artists by profession, the issue of understanding the corporate governance was a tedious challenge. This was evident during the board induction where a number of members testified that corporate governance was a new subject to them.

3.6. Fashion Council (Cluster)

3.6.1. Background

The Department of Economic Development, Tourism and Environmental Affairs and eThekweni Municipality have also established the KZN Fashion council which is a Non Profit Company (Not for Gain). The argument that was ignited in the past was the difference between the Clothing and Textile Cluster and the Fashion Council. The protagonists of both industries will argue that there is a huge difference. For example, Edcon, Woolworths, Truworths, Foschini and other conglomerate retail stores are in the mass production (Knappe 2003, Morris and Barnes 2007) which is mooted by the CMTs, hence the Fashion Council is geared towards promoting the exclusive designer clothing range feeding into the famous boutique brands such as Space and more. (Urban-Econ 2013). The KZN Fashion Council's mandate, therefore, is to grow and enhance the competitiveness of the fashion industry.

3.6.2. Sector overview

The Fashion Council ensures the recognition of various sectors throughout the value chain which also reinforces the social and economic creativity of the emerging and established fashion designers in order to enhance productivity and competitiveness (Knappe 2003, Ioan and Gabriela 2009) of the fashion industry in KwaZulu-Natal. This ensures that the fashion designers are able to compete at a national and international level through the delivery of strategic programmes crafted for young, emerging and well-positioned designers with an emphasis on the historically disadvantaged communities (Fashion Council Annual Report 2013). The fashion industry has over the last ten years been faced with economic setbacks. But the South African fashion designers have turned the misfortunes into real opportunities by taking significant formidable strides in making inroads in the events such as J and B Met – Horse Racing Event in Cape Town; Vodacom Durban July in Durban Horse Racing; and the Fashion Week Events in Durban; Johannesburg and Cape Town. These events have evolved as business opportunities for creative designers and today they have grown in leaps and bounds throughout the value chain wherein people networked and exchanged business ideas. The prominence of the industry has significantly improved and the consumer confidence in respect of South African Fashion has grown tremendously (Knappe 2003, Morris 2006).

In the midst of the positive strides that have been made, there were minor setbacks which have been recorded as deterrents in growing the sector such as the import basket coupled with the weaker rand (ZAR) and continuous improvement in technological advancements, which has ripple negative effect on employment, poverty and inequality (Urban Econ 2013).

3.6.3. The Global Economic Trends for Fashion Industry

The global trends for the major powerhouse fashion industry have remained to be dominating the world textile and clothing industry where China is still leading in all aspects (Knappe 2003, Kaplinsky and Morris 2008). China has grown in exports exponentially from USD 16.89 billion in 1990 to USD 206.74 in 2010. The growth of textile and clothing industry in China continued in 2011, where the export value was USD 253.2 and this is an almost 23% increase. According to Plunkett Research (2013), the recorded growth was due to the expansion of industrial value chain through forging manufacturing that requires labour absorption; better technology, rapid design, manufacturing, logistics and increase local investments in high tech equipment (Scheel 2002). In South Africa the fashion industry is being driven by the Department of Trade and Industry and Department of Arts and Culture. The reason for the intervention by the Department of Arts and Culture is that fashion is viewed as part of the Creative Industries and DTI focuses on the fashion sector as a component of the clothing and textile industry (Morris and Einhorn 2008, Köhler 2014). There is a number of government policies and strategies that are geared towards growing the fashion industry such as the National Industrial Policy Framework (NIPF) and Industrial Policy Action Plan IPAP (IPAP). The IPAP is the implementation plan that targets certain industries such as fashion textile and clothing industry, leather industry and other manufacturing and services industries. The action plan for textile, clothing, and fashion emanates from IPAP in implementing the garment sizing technology which attempts to circumvent the decline in value chain capacity. On the sideline, the DTI in collaboration with the Industrial Development Corporation (IDC) has established an intense incentive scheme called the Clothing and Textile Competitiveness Programme and the Production Incentive (PI) which is geared towards assisting industries and companies to grow in terms of competitiveness and upgrading their business (KZN CTC 2013).

The South African Textile and Clothing Industry have struggled over the years due to deregulation of trade and trade liberalisation (Kaplinsky and Morris 2008, Gereffi and Frederick 2010). Since 2002, there has been a hasty growth in import of goods and services and the sturdy decrease in exports. Even though export came back positive in 2011, but this did not assist since the void was huge. This was indicative that the textile and clothing industry was struggling to be globally competitive against the rest of the world (Barnes 2003, De Backer and Miroudot 2014). For example, in 1999 the combined real values of knitted, crocheted products, textile, and clothing apparels totaled R41.7 billion and in 2009 the value decreased to R34 billion in real terms. From 2000 to 2011 imports increased by 16% and this was indicative of a downward trend of exports (Mthente Research and Consulting 2015).

Table 3.9 below, indicates figures compiled by the South Africa Statistical Services in 2015, the actual value of sales of the Clothing and Textile industry grew on a yearly basis with an increase of 1.18 percent between 2012/2013 and 1.35 percent growth in 2013 to 2014.

Table 3.9: Actual year-on-year value of sales within the CTFL sector

2009 (R)	2010	2011	2012	2013	2014	2015Jan - Feb
R137,811,8 43	R132,424,4 86	R133,583,9 00	R1369621 04	R146,994,8 71	R158487,1 98	R24,787,9 32
% Growth	-0.636	0.137	0.399	1.185	1.358	-----

Source: Statistical Services South Africa 2015

3.6.4. Comparisons and benchmarks of the Fashion Industry

The South African Fashion Industry is faced with the tough competition especially from the Eastern Block and the Western countries. As **China** is growing year in year out in terms of textile and clothing, the Western countries have found it cheaper and attractive to subcontract countries such as China, India, Bangladesh and Hong Kong (Nordås 2004, Morris and Einhorn 2008, Power 2008).

The Western Subcontractors have suffered set-back in terms of the increased cost of production, such as labour, water, electricity, insurances, taxes, austerity measures, and other overheads costs (Morris 2006, Kaplinsky and Morris 2008). With the competitive situation aggravated by the international trade deregulation for China, the Turkish textile and clothing industry started to lose support in terms of the labour costs in a bid to maintain competitiveness (Gereffi and Frederick 2010). This warranted many producers to start developing new designs, fashions; quality brands (Labels) and targeting high-income earners. Countries such as Turkey were also affected by the EU decision to enter into the Free Trade Agreement with Textile and clothing supplier countries such as India and South Korea (Kaplinsky and Morris 1999, Gereffi and Frederick 2010).

In order to overcome the prevalent challenges, the **Turkish** government established a **Turquality programme** which was destined to provide assistance in marketing, industrial upgrading and modernisation and strategic positioning (Nattrass and Seekings 2013). It was no doubt that the turnaround strategy by the Turkish government provided considerate success which was ascribed to the employment of advanced technologies, sufficient and reputable suppliers of raw materials. Another comparative advantage was that Turkey was strategically positioned next to the European countries.

The following are Turquality sub-programmes which are designed to assist Turkish Clothing and Textile industries (Barnes, Bessant et al. 2001):

- a. The Quick Response Time;
- b. Innovation and Creativity;
- c. Human Resource Development;
- d. Meeting Lead Times;
- e. Improvement of Labour Conditions;
- f. Occupational Health and Safety standards;
- g. Production efficiencies, and
- h. Compliance with the Customs Union; Free Trade Agreements and the European Union.

The Turkish Textile and Clothing Industry continued to grow despite the global changes. This was due to the close proximity leading to the European markets. On the other hand, Small and Medium Textile and Clothing Clusters have propelled the growth of the sector (Kaplinsky, McCormick et al. 2007, Ioan and Gabriela 2009).

The growth of the sector was owed to the employment of industrial clustering concept by Turkish government which included the following (Mthente Research and Consulting 2015).

- a. The close proximity of industries in order to increase productivity (Geographic location);
- b. The effective industry value chain which is influenced by driven buyer networks;
- c. The participation of the Turkish local textile and clothing industries in international trade exhibitions for exclusive designers, and
- d. The employment of quick response and the availability of domestic supply of high-quality raw material.

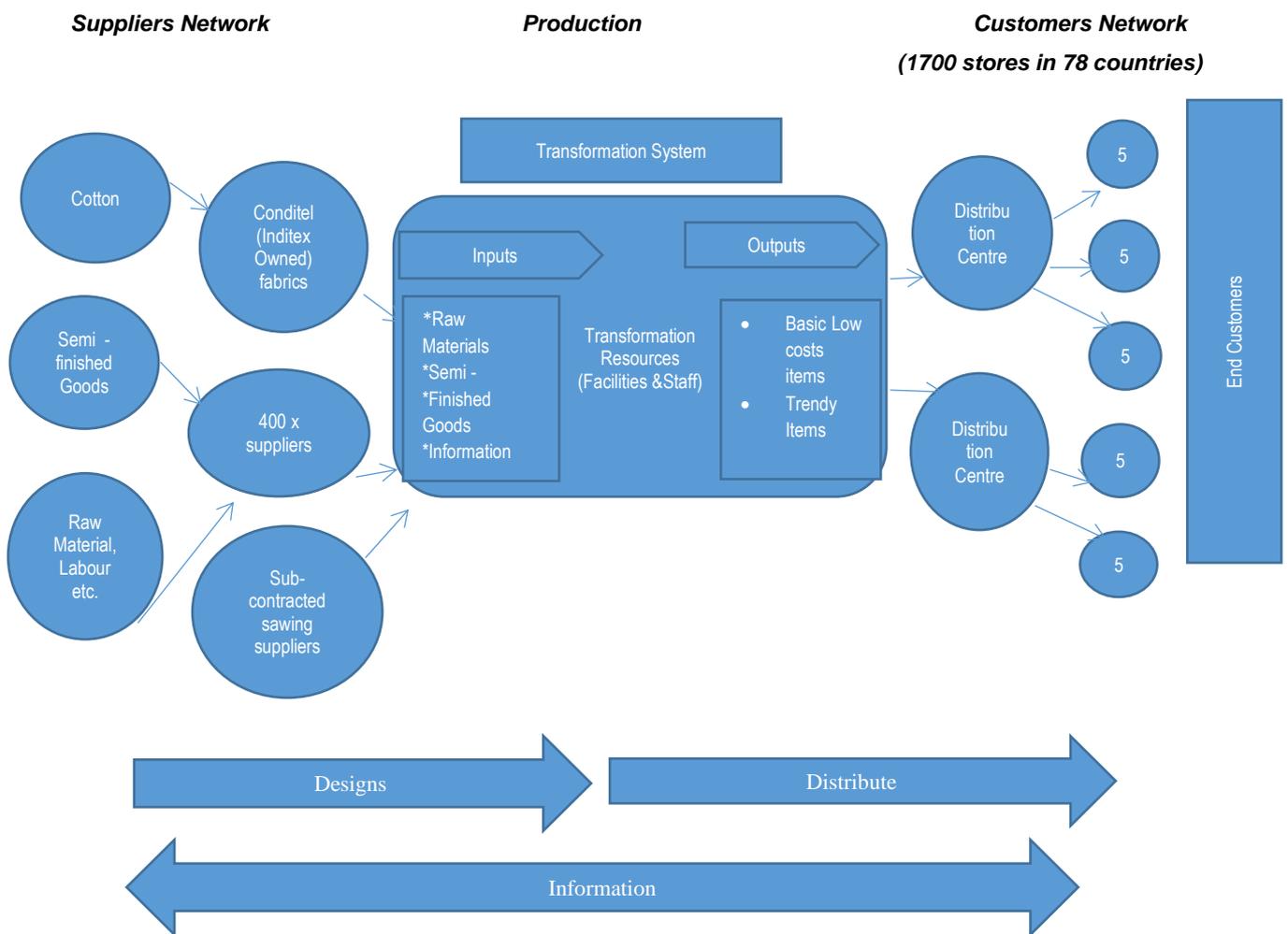
The other lessons were learned from Ghana where the Small Medium Business Enterprises were provided with support through the establishment of **Textile/Garment Cluster Network**, which aimed at increasing the industry response time. Secondly, it was the establishment of the **Textile and Garment Training Centre** which focused on the skills upgrading on textile and garment industries in a bid to take advantage of the AGOA Act (Gibbon 2003, Mattoo, Roy et al. 2003). Lastly, it was the revision of local tariffs in order to benefit the local industries, in particular, the textile and garment industry.

3.6.5. **Competitiveness of the Fashion Industry**

For the industry to grow it is critical to have a strong industry value chain with the interconnectedness of operational branches to headquarters (Porter 2000, Jan Stejskal 2011). For an example, Zara Clothing Store has been in the marketing intelligence drive in gathering qualitative intelligence information about customer preferences and choices. This is done on the shop floor requesting customers to provide feedback on the tried items but not sold. Some have viewed Zara staff members as researchers.

The Customer Relations Management System is used to gather feedback from customers. If for an example, a customer has fitted a blue skirt but wanted a purple skirt, within a week a purple skirt will be delivered. In essence, this is called a rapid response time (RRT). The rapid response time is feasible in the close proximity of supporting industries (Barnes 2003).

Figure 3.14: Zara Vertical Integration and Rapid Response Time



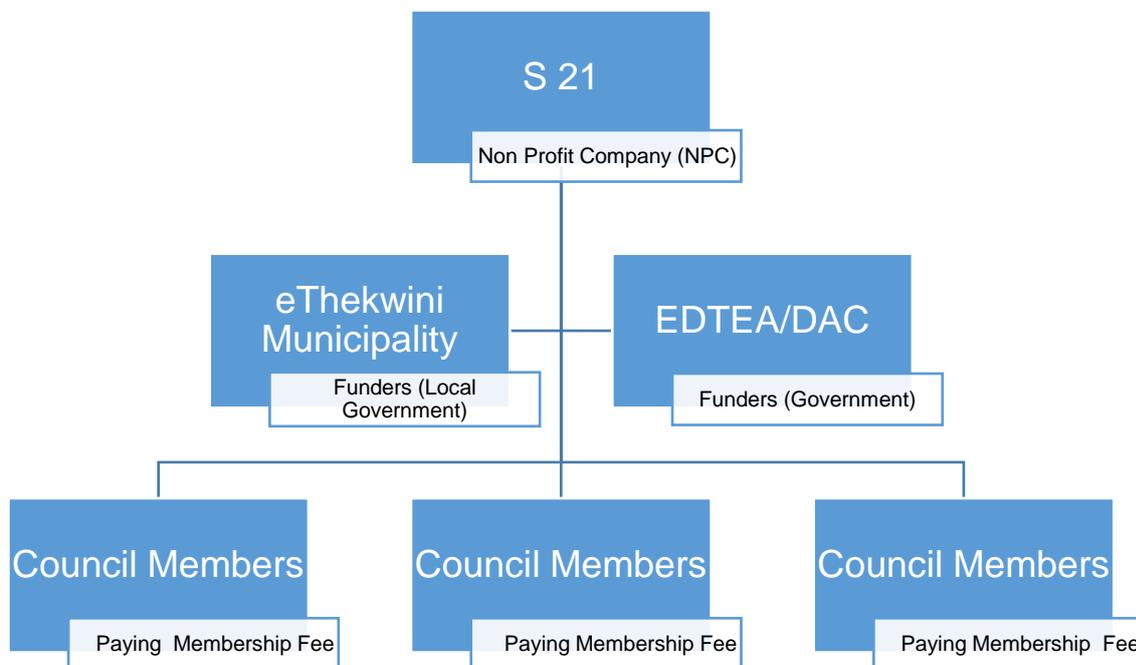
Source: Adapted from Morris and Barnes (2007)

The figure above shows that Zara has used the vertical integration design, just-in-time production, distribution (Heizer and Render, Jacobs, Chase et al. 2004) and retail sales to speed communication from customer to designers and unrestrained the traditional model of seasonal lines (Barnes 2003, Morris and Einhorn 2008).

The Inditex model incorporates the quick response time to customer demands by ensuring low variable and overhead costs, reduction in design to retail. While Inditex uses the vertical integration model and manufacturing which is far fetching from its counterparts that use the standard design to retail cycle which is five months versus five weeks of the Inditex's (Mthente Research and Consulting 2015). In this instance, the rapid response time also minimises operating costs. For example, there are virtual stockrooms or warehouses and therefore frequent deliveries take place twice a week in order to circumvent large stockpiling. Further, at least 12 000 new designs are launched every year and distributed every week (Morris and Barnes 2007).

3.6.6. Governance and Institutional Arrangements

Figure 3.15: Structure of the Board of Directors- KZN Fashion Council



Source: Author

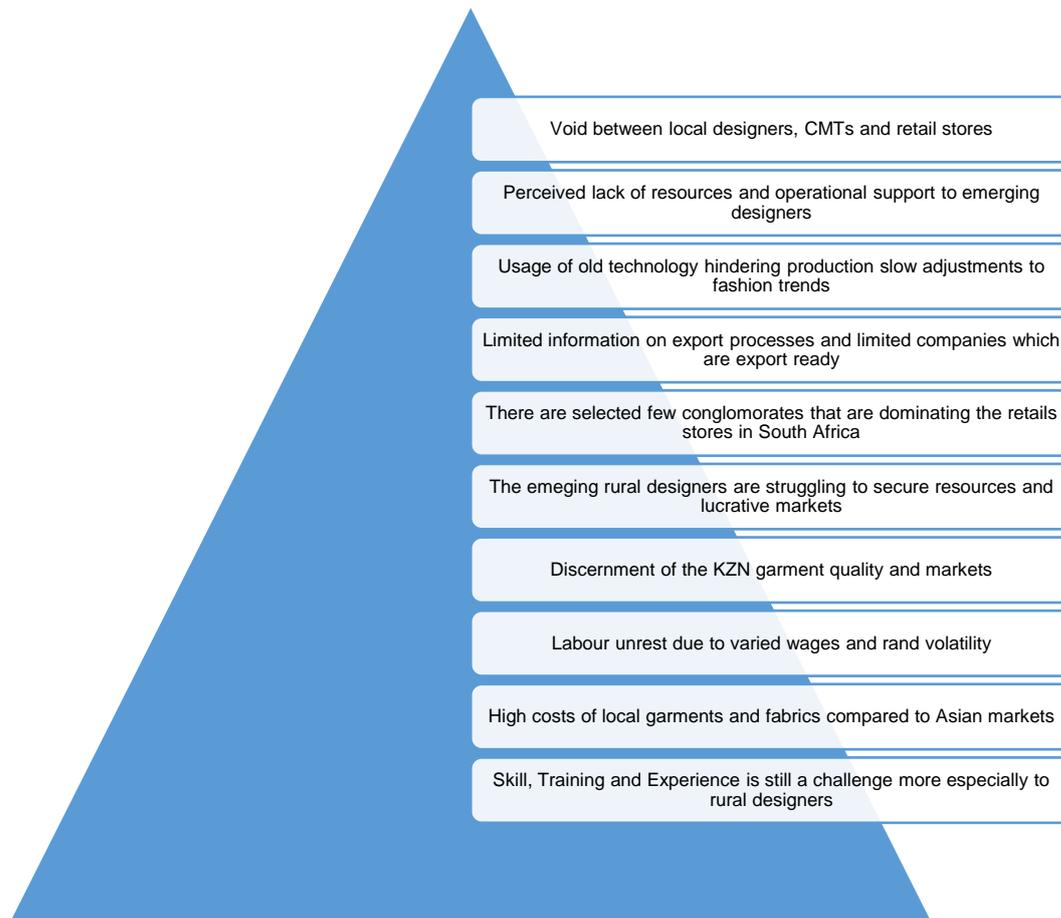
Figure 3.16 depicts the organisational structure of the KZN Fashion Council. The Department of Economic Development, Tourism, and Environmental Affairs together with eThekweni Municipality are strategic partners of the KZN Fashion Council which was established in 2009 as a non-profit company (Section 21).

The strategic thrust for the establishment of the KZN Fashion Council was to provide support to the fashion design sector with the special emphasis in putting young and emerging designers into the mainstream economy. KZN Fashion council has a board of directors comprising astute individuals who pose various skills and experiences and they are drawn across the KZN province (KZN Fashion Council 2014). The Department of Trade and Industry and Trade and Investment in KwaZulu-Natal also played a significant role in ensuring that local designers have access to lucrative markets. The following are key objectives of the KZN Fashion Council (2014):

- a. Support to process upgrading;
- b. Business and technical skills;
- c. Coaching and mentorship;
- d. Enhancing partnerships and industry linkages with leading fashion institutions;
- e. Market access programme;
- f. Cut-Make-and Trim and Green Initiative development;
- g. Knowledge Management, and
- h. Industry Networking.

3.6.7. Fashion Industry Challenges, Constraints and Threats

Figure 3.16: Challenges, Constraints and Threat to the KZN Fashion Sector



Source: Adapted from Urban Econ 2013

Figure 3.17 depicts the challenges faced by the fashion industry cluster in KwaZulu-Natal. The following are the deliberations of the challenges based on figure 3.17:

a. Challenges: Deregulation of Trade and Imports

The KZN province has been identified as one of the main importers of fashion which has negatively affected the local manufacturing industries in terms of competitiveness. The following are main reasons which contributed to the importation of the garments and fabrics (Urban-Econ 2013) and (Kaplinsky and Morris 2008):

- i. Inability to supply – The issues associated with this challenge are high labour and operational costs; lack of requisite skills which translate to delays in production and to meet orders; the unreliability of manufacturers to meet deadlines has forced large companies towards international procurement.

- ii. Unstable local market – Local manufacturers have been producing below level and some companies have shut down their operations due to trade liberalisation.
- iii. Logistics and Shipping – There are significant delays experienced during shipping at the Durban Harbour. In addition, there is a huge void in terms of under-invoicing orchestrated by major leagues of the fashion industry (Barnes, Bessant et al. 2001).

b. KZN as a Design and Fashion Hub

There was a popular flawed notion that Western Cape was the main fashion hub that manufactures good quality garments. However this is no longer a case, there has been a shift into KZN where more fashion-conscious consumers have grown in terms of understanding the fashion trends. This is due to the exponential increase of the wealth of artistic and creative talent within the fashion industry in KZN province. The following are critical intervention required in order to enhance and harness competitiveness of the fashion industry in KZN (Urban-Econ 2013):

- i. Encourage young and upcoming designers to take up fashion and clothing as a career;
- ii. Promote local designers to the international platforms;
- iii. Increase number of fashion shows and media coverage;
- iv. Promotion of the local brands in various media platforms both print and electronic media, and
- v. While focusing on the above, there is a greater sense of urgency to address the structural and spatial issues such as the inequality between rural and metro designers, fabric costs and accessibility and addressing the void of skills development.

c. Technology

The advancement of technology has posed a challenge to the local industries in terms of being competitive with the international companies. The investment in technology and innovation hinders growth more especially to smaller companies operating in rural areas. Moreover, there is a lack of training and skills on how to utilize the high tech equipment and software (Morris and Einhorn 2008) and (Albu 1997).

d. Location and Operational Costs

The emerging fashion designer experience difficulty in finding an affordable space for rental. The other associated overheads are varied costs for garments; water and electricity costs; labour costs; transportation and logistics and maintenance (McCann, Arita et al. 2002, Jacobs, Chase et al. 2004). These costs push most of the companies out of business since they struggle to meet profit margins and thereby failing to compete with the Asian and other international markets (Barnes, Bessant et al. 2001).

e. Skills Development and Training

There is a strong notion that there is a lack of training and knowledge within the fashion industry. This is due to the lack of financial support in pursuing formal and technical training by young and upcoming fashion designers. This is a reason why most of the small-scale businesses fail to sustain in the long run (Mytelka and Farinelli 2000).

f. Growth in E-Retailing

The KZN Fashion Council is outperformed by Gauteng and Cape Town in terms of online purchasing. This is one of the fastest growing areas of marketing and retailing where manufacturers, designers, and retailers have an opportunity to expand their businesses even wider. Each new development has its own drawback associated with it (Albu 1997):

- i. Technological divide between the rural and urban designers/customers.
- ii. Unfortunately the emerging designer residing in the rural areas will have a challenge in terms of using modern technology and access to delivery service.
- iii. Technical Skills Training – Although broadband is widely spread across the province with a number of people having access to emails using smartphones, computers but technical skills are essential to operate and process online orders.
- iv. Lack of funding – The e-retailing requires a lot of resources which are associated with information, communication, and technology. These include the procurement of hardware such as computers, networks, websites which are professionally designed as well as maintenance.

3.7. Objective three: The reasons for the downfall of the industrial clusters

The reasons for the downfall of the industrial clusters are known to firms who belong to the cluster formation or based in a cluster location.

3.7.1. The Systematic industrial clustering and shared Sincerity

The critical path of the cluster formation is that when cluster membership is small, the competition amongst the members becomes very minimal and the sincerity to other members is strengthened (Ozgen 2011). The larger the number of new entrants joining the cluster location surely there will be an unbound growth because there will be more competition and this will drive other small members outside the cluster and thereby fail to sustain (Porter 2000, Maggioni 2004). This will, therefore, increase unnecessary competition since there will be limited demand for product or service.

3.7.2. The accumulation of the financial prudence and extravagances

The critical issue in this instance is that when new entrants join the cluster there is a great plausible notion that the increase in membership will ultimately bring a pool of technical knowledge spillover, skill, and labour; however, it increases completion overcrowding (Porter 2000, Scheel 2002, Ozgen 2011). The increase in the new entrants increases the fixed costs of the location and infrastructure becomes small and unbearable to trade (Scheel 2002, Tallman, Jenkins et al. 2004). Some firms, fortunately, join the cluster in a bid to gain more profits without looking at the locational costs and the benefits as there are recognizable and non-recognisable elementary costs. This will ultimately drive the new entrants out of the cluster and even fail to sustain (Maggioni 2004, Ozgen 2011).

3.7.3. The government policies destined to establish and implement strategic actions in support of local economic development

There are proponents of the concept that government should not drive policies that seek to promote the establishment of the industrial clusters from scuff (UNCTAD 1998, Udovik 2014). This creates an unrealistic expectation from the industry as it increases the dependency syndrome to be funded by government (Barnes 2003, Ishmael 2008).

It is imperative to note that the industrial clustering is the global concept which cannot in any case be divorced from globalisation. Morris and Barnes (2006) maintained that globalisation encompasses the global vertical and horizontal of production of manufactured goods in different parts of the world coordinated and adapted towards supplying the developed countries. The World Bank (1994) came out strongly in promoting the view that government should act as an architect, reagents of the institutional builder of an active comparative structure that is destined to undo organisational incompetencies as well as establishing proactive incentive schemes. Barnes and Morris (2006), Humphrey and Schmitz (1995, 1996) criticised UNIDO (www.unido.org/cluster) for not clarifying the roles of the government and other public institution when establishing clusters more especially in the developing countries. In effect, the contestation is that the cluster document by UNIDO is silent in clarifying on how clusters should be created, maintained and sustained for regional economic development. The following are issues that government should take into cognisance when intervening in the space of industrialisation (Schmitz and Nadvi 1999, Weiss 2002, Morris and Barnes 2007):

- i. Government should augment the initiatives of the industry rather than being proactive in creating new clusters;
- ii. Government should take note that natural clusters usually mushroom when they are geographically located and thereby taking an advantage to establish. The natural cluster formation should go through an exercise in order to justify existence;
- iii. Government should not intervene to those declining clusters or take a direct proprietorship in cluster initiatives;
- iv. The government in the developing economies should learn and benchmark from developed countries such as the US and European countries on how to create networks or cluster initiatives. The existing capabilities are the International Competitiveness Support Network who are the leaders in cluster development;
- v. The issues that are eminent in industrial clustering are related to corporate governance. In actual fact there is a slit between the legislative framework and the expected governance model that has to be followed by industrial cluster, and

- vi. The government policies that are destined to create industrial clusters promote cooperation and enhance the competitiveness of the firms within the industry value chain.

Table 3.10: Industrial Policy and Cluster Strategy Framework

		C O M P E T I T I V E N E S S L E V E L		
		Micro Level (Intra Firm)	Meso Level (Industry Cluster)	Macro (National Level)
G O V E R N A N C E P O L I C Y	Global	World Trade Organisations (WTO), Africa growth, Opportunity Act (AGOA), European Union (EU) agreement, Internationally agreed certification standards (ISO), labour, Fairtrade		
	C e n t r a l	<ul style="list-style-type: none"> ✓ Continuous Support on Policy Issues (e.g. Competitiveness Fund) ✓ Research and Development/Design and Innovation, and ✓ Resource Allocation. 	<ul style="list-style-type: none"> ✓ Sectoral stakeholders alignment, ✓ Supply Chain Management, ✓ Information for value chains, cluster initiative, and sector development, and ✓ Cross-sectoral resource allocation. 	<ul style="list-style-type: none"> ✓ Regulatory Environment, ✓ Selective Sectoral Policy, ✓ Cross-Sectoral policy, ✓ Review of Industrial Policies, ✓ Database collection, ✓ Policy Performance Review, and ✓ Analyse global and sectoral trends.
	P r o v i d e	<ul style="list-style-type: none"> ✓ Export Readiness Repository, ✓ Business Retention and Expansion, ✓ Cluster Information, and ✓ Establish Business Development Centre 	<ul style="list-style-type: none"> ✓ Establish Niche Markets and global buyers, ✓ Sector Trade Intelligence, ✓ Information Hub to Assist Cluster Members, ✓ Cluster/Learning Network Support, ✓ Channel for Horizontal Support Measures (e.g. Funding, Monitoring, and Evaluation) 	<ul style="list-style-type: none"> ✓ Lobbying, ✓ Institutional Participation at the national level such as Customised Sector Programme (CSP), ✓ Continuous Research such as Socio-Economic Impact Studies

L o c a l	✓	Optimize Infrastructure,	✓	Cluster/Learning Networks,	✓	Lobby various stakeholders within the province in order to leverage resources, and
	✓	Logistics costs/assistance,	✓	Channel for Horizontal Support (e.g. Funding, Monitoring, and	✓	Participation by cluster members at all sectoral engagements.
	✓	Data Collection and Analysis, and	✓	Evaluation) Disseminate industry Information, and		
	✓	Skills Development and Training.	✓	Alignment to the provincial strategies and policies.		

Adapted from: Morris and Barnes (2006)

Table 3.10 depicts the government interventions regarding the challenges and failures of the industrial clusters. The mitigating factors are three levels; that is; Micro-firm level, Meso- Industry cluster level and macro-national level (Morris and Barnes 2007). The role played by each sphere of government is clearly defined with the kind of interventions that should be employed. In some instances, the competitiveness interventions warrant commitment from government, private sector (firms) and industry in general. The challenge is to gather all stakeholders in one room in a bid to find the solutions that are hindering the growth of the industrial clusters.

3.7.4. **Issues and constraints to growth: Financing, Implications and Options**

The integral that hinders growth and development of industrial clusters is financing clusters (McCormick 1999). This problem exist more especially in the developing economies which becomes a stumbling block in the successful performance and development particularly the export oriented clusters. In this instance government intervention and promotion of industries is important in growing the industries and entrepreneurship in particular (Morris and Barnes 2007). Singh (2006) further argued that innovative private sector and market driven elucidations to financing need to be geared for developing country industry and trade initiatives including cluster park development. Financing is argued to be central propeller that takes a center stage in determining the growth and development of industrial clusters. The availability of resources in developing infrastructure becomes paramount (Nadvi 1999, Morris and Einhorn 2008).

Some of the funding options available are not suitable for the growth and development of industrial clusters. For instance, in the developed economies clusters have specialised capital service providers including venture capitalists (VC) or angel investors. It should be noted that angel investors are risk investors who usually provide finance outside the scope of investment to soft loans at a minimum level right up to sizeable amount of investment. In most cases, even in the developed economies, banks have limited understanding or affinity for investing in the emerging businesses or industries more especially in infrastructure and as a result the venture capitalists fills the gap and become the financial providers for clusters growth and development (Ishmael 2008, Markus 2008). It is with consternation that this situation does not prevail in the emerging and transition economies.

For instance, in some developing economies government agencies such as Ithala, Industrial Development Corporation, National Empowerment Fund, UNIDO, World Bank, BRICS Bank and other development financiers provide access to capital. This could be in a form of soft loans or interest subsidy (Singh 2006). The World Bank, UNIDO and other developmental agencies across the world strive to provide support to those projects that promote economic agenda (Udovik 2014). The current option that has been propagated by many countries is the public private partnership (PPP) model or concept which is mooted by project managers, consultants to set up and manage industrial clusters. For example, in India the infrastructure development leasing and industrial cluster financing (IL&FS) project consultants provide extraordinary expertise in developing and financing infrastructure projects on public, private partnership (PPP) basis and act as Project Managers to support industry and government in developing industrial clusters and parks from initial stage to implementation (Singh 2006). The challenges experienced in this model was that to raise capital for industrial parks was emanating from difficulties experienced by small medium enterprises in getting required resources while under the industrial clusters. Therefore IL&FS provides a viable and innovative option for both government and industrial clusters which meets the requirements of the PPP including financial institutions (Weiss 2002, Spencer, Vinodrai et al. 2010).

3.8. Conclusion

Chapter two provided a clear direction in terms of unpacking the research objectives linked to the theoretical framework. Porter (1990) clearly set a roadmap of defining the industrial clustering concept. The industrial clustering concept has been adopted by many developed and developing countries. It has further proved to be the driver of the economic development of industrialization if the fundamental processes are followed correctly. The issues of each industrial cluster are different hence the challenges. The chapter further interrogated competitiveness of each industrial cluster and how an individual firm has benefited from joining the respective industrial clusters. The role of government in the midst of the challenges of the industrial cluster was dissected at length. It was evident from the literature that Industrial clusters are relying heavily on government support more especially the ones that are currently under review.

Chapter Four

Research Methodology

4. Introduction

This chapter presents the research methods that have been employed by the study. The research methods are a critical path that encompasses the philosophical ideas and standards about the realities of the environment and the scientific search of information (Saunders 2011, Bezuidenhout, Davis et al. 2014). The study is based on five industrial clusters supported by the KwaZulu-Natal government, namely, Maritime Cluster, Wood, and Wood Product Cluster, Music Cluster, Textile and Clothing Cluster as well as the Fashion Cluster. For the purpose of this study, the researcher has used the two schools of thought; namely the qualitative and quantitative research or a mixed method (Rubin and Babbie 2005, Saunders 2011). During the research methodology, the decision-making process was critical. Some decisions taken tended to be interconnected and impacted one another. (Brannick and Roche, 2007) further asserted that all aspects contained in a research project are to be coordinated in a systematic approach and controlled by epistemological assumptions and convictions of the researcher in a bid of solving the research problem and the available theory thereof.

4.1. Types of the Research Methods

Cohen et al. (2011:12) indicated that the important issue of science is the experimental nature of some agreed rules and processes that depicts not only how the results were concluded but on whether the receiving end finds them to be succinct and clear. Therefore a scientific approach warrants that processes and standards should be followed to authenticate the findings. Neuman (2000:47) adds that a problem has to be tested against the authenticities before it could be accepted or rejected as the valid theory. De Vos et al. (2011:63) recognised that there are two renowned and tested approaches to research methods, namely qualitative and quantitative hypotheses. It was acknowledged that the two methods were significantly different from each other.

The researcher opted to use the mixed method based on the experience, discussions or facts relating to industrial clusters in the KwaZulu-Natal and South Africa in particular but it should be noted that facts should be reliable hence the use of the statistical methods (Saunders 2011). In this instance, the researcher was instrumental in the development and the establishment of the industrial clusters in the Kwazulu-Natal province. The porosity of industries approached KwaZulu-Natal government for immediate support and intervention. The unfortunate part was that the prompt action by the government resulted in the failure of some of the industrial clusters. The research question was therefore explanatory in nature since there were issues that necessitated identifying and clarifying on why the industrial clusters failed to sustain (Mouton 2001, Creswell 2013). Kreuger and Neuman (2006:23) and Rubin and Babbie (2005:126) asserted that the explanatory and descriptive research has significant comparisons hence they vary in many respects. Further, the study sought to develop an understanding of a singularity from respondents such as why or to explain the action; it is, therefore, likely to be exploratory research (Gravetter and Forzano 2003, Bezuidenhout, Davis et al. 2014).

4.2. **Positivism and Phenomenological Paradigms**

It is critical to understand the meaning of paradigm in pursuit to a journey of finding a solution to the research problem. Baker (2003:321) & (Creswell and Clark 2007) indicated that paradigm denotes a set of beliefs or suppositions which are embedded in the research design in collecting, analysing and reporting findings. The researcher used the past experiences and engagements with the industry clusters , private sector and government in gathering the data in relations to the teething problems faced by the industry clusters and the policy shift thereof. The paradigm encompasses the qualitative and quantitative research (Mouton 2001, Saunders 2011). The paradigm includes the worldviews that explains the relationship of an individual within the world and its components. The supposition is viewed as a common understanding of issues that are to be accepted based on faith. Within the basic suppositions and beliefs, there are ontological, epistemological and methodological assumptions.

The **Ontological** assumption is about probing questions about real issues in life. This is about the discovery of life within the real world. For example, the researcher has been in the discovery journey since the inception of the adoption of the industrial clustering concept.

The government assumed the concept without interrogating the regulatory environment on how the current policies will accommodate this phenomenon. This is viewed as trying to solve the real existence of the world. The other supposition is the **epistemological** assumption which focuses on the issues of seeking to know the relationship between two people. And to further understand how this relationship really work. The **Methodological** assumption is about enquiring the process of doing things (Crook and Garratt 2005, Tuli 2011).

The critical issue is that not all methodologies applied are appropriate. The use of qualitative or quantitative method depend on the research question. The difference in the aforementioned paradigm assumptions is not just an ordinary philosophical theories. However, these positions are of critical importance in conducting the enquiries, discovery of findings, interpretation of the findings and formulation of policies (Guba and Lincoln 1994, Gravetter and Forzano 2003). The above analyses focused on looking at the three suppositions within different paradigms.

4.2.1. **Positivism Paradigm**

The positivism embraces the world view in terms of the suppositions in the forms of the scientific method. It is also referred to as empirical science and post positivist (Creswell 2009). The positivism holds a view that the cause defines the results (Rubin and Babbie 2005).

The study interrogated the research problems and through the necessary processes of data collection, analysis, and presentation of the results (Creswell and Miller 2000).

4.2.2. **Phenomenological Paradigm**

The phenomenological paradigm focuses on individuals with the world experiences and issues affecting them (Strydom 2011). These individuals hold different views with different meanings. In this instance, the industrial clusters have different views and experiences regarding their respective clusters. In the phenomenological paradigms, the different clusters hold varied meanings that lead to multifaceted issues (Sekaran and Bougie 2003, Creswell 2013).

Table 4.1: The summary of the features of the two paradigms

Positivism Paradigm	Phenomenological Paradigm
Positivism is driven by quantitative data	Phenomenological is embossed by qualitative data
Volume of sample is used	Lesser number of sample is used
It focused on hypothesis testing	It focused on developing theories
The collected data is explicit	Volume of information is collected and subjective
There is no specified locality	Locality is defined
Great reliability	Less reliability
Low validity	High validity
Sample is generalised	Simplifies from one scenery to another

Source: Adapted from (Saunders 2011)

Table 4.1 indicates the features of each paradigm. It is critical to note that each of the three paradigms below have defining questions and it is important to interrogate each assumption across each paradigm in order to obtain a meaning.

Table 4.2: Basic Beliefs of alternative Inquiries Paradigm

Item	Positivism	Post positivism	Critical Theory	Constructivism
Ontology	Naïve realism – “real” reality but apprehendable	Critical realism - “real” reality but only imperfectly and probabilistically apprehendable	Historical realism – virtual reality shaped by social, political, cultural, economic, ethnic and gender values; crystallised over time	Relativism – local and specific constructed realities
Epistemology	Dualist/objectivist; findings true	Modified dualist/objectivists; critical tradition/community; findings probably true	Transactional/subjectivist; Value-Mediated findings	Transactional/subjectivist; Created findings
Methodology	Experimental/ Manipulative; verification of hypothesis; chiefly quantitative methods	Modified experimental/Manipulative; critical multiplism; falsification of hypotheses; may include qualitative methods	Dialogic/ Dialectical	Hermeneutical/ Dialectical

Source: Adapted from (Guba and Lincoln 1994)

4.3. Quantitative Research

The quantitative research is commonly known as a positivist. Quantitative research encompasses the use of the statistical and numerical analysis in examining the problem. Dey (1993:28) pointed out that numerical analysis depends on the meaning of the phenomenology.

Therefore the more complex the phenomenon the more difficult it is to analyse the data in an evocative way. In this instance, the quantitative research encourages the exception on reliability and unbiasedness (Sekaran and Bougie 2003). The results could be simulated for similar assignment (Saunders 2011). The quantitative research method has been used in order to test and validate the data that has been collected. In this instance, the data was collected from members of five industrial clusters (Maritime; Wood and Wood; Fashion; Music and Textile and Clothing) that are supported by the government. This was to ensure that the information collected through qualitative research is reliable and was validated by quantitative methods (Dey 2003).

4.3.1. Population of the Quantitative Research

The population is the full orthodox of components wherein a sample is drawn (Saunders 2011). The further population is defined as the sum of individuals or companies to whom the researcher wants to discover findings of the study (Bezuidenhout, Davis et al. 2014). For the purpose of this study, a population consists of 300 registered members from five industrial clusters. Each cluster has its own database of members. Firms/industries are registered to their respective clusters to become members (Porter 2000). Depending on the requirements some pay membership fees and others receive free membership. This emanates from the fact that government invest resources as part of the continuous support provided to some industrial clusters. The study used the whole group of cluster members that have participated in the study with an aim of getting the possible results.

4.3.2. Sample for Positivism Paradigm

A Sample denotes an insignificant number drawn from the population (Gravetter and Forzano 2003). This refers to the number of individual companies who have common physiognomies. These industries are having complementary features in terms of the provision of goods and services. The critical reason for the usage of the sample was to determine the possibilities and options for the analysis of findings. Therefore, the use of the positivism sample was to increase the reliability of the results than to investigate the whole population. The sample size can impact the final results as the smaller the sample the more insignificant the results or the larger the sample size the overly significant would be the results (Neuman and Kreuger 2003).

4.3.3. Reasons for the use of sample

The critical point of using sampling is to ascertain the possibilities of the study. Therefore it is difficult to take every member of the population hence the selection of industries with common interest. In this instance the sample of the study was the five (5) industrial clusters funded and supported by Department of Economic Development, Tourism and Environmental Affairs. This was done purposive in order to obtain accurate results. The possibilities of studying all industrial clusters were going to yield flawed results because of the errors that could have been incurred due to the large number of population (Guba and Lincoln 1994, Rubin and Babbie 2005).

Table 4.3: Guideline for Sampling

Population	Percentage Suggested	Number of Respondents
20	100%	20
30	80%	24
50	64%	32
100	45%	45
200	32%	64
500	20%	100
1000	14%	140
10 000	4.5%	450
100 000	2%	2 000
200 000	1%	2 000

Source: Adapted from (Sekaran 1983, Stoker 1985)

The five industry clusters were contextualised at length in chapter three which comprise of the five funded industrial clusters by government, that is, Textile and Clothing, Wood and Wood products/Furniture, Fashion Design, Maritime and Music. Stoker (1985) points out that it is imperative to understand that when the sample size is small there should be a test-retest so as to ascertain the reliability.

The smaller the sample percentage the better will be the results to manage (Grinnell and Williams 1990, Sekaran and Bougie 2003, Teddlie and Yu 2007).

4.3.4. Kinds of probability sampling

a. Simple Random Sampling

The simple random sampling is the simple method to use where each individual in a certain population has got an equal chance of being selected for a sample from the pool of population (Strydom 2011, Creswell 2013). Usually each participant is assigned a unique number within a population. There is no biasness or programmed selection process. The process of simple random sampling consist of four basic elements:

- i. The population is defined;
- ii. The population elements/members are listed;
- iii. The population elements are numbered; and
- iv. Use an approach that guarantees randomness when selecting a sample.

It has to be noted that the actual sample is selected using a table of random numbers or statistical programme in a bid to compute random sample (Saunders 2011, Strydom 2011). The study did not use this method of sampling since the data was already available due to the experiences the researcher had with the industries and the day to day running of the industrial clusters.

b. Stratified Sampling

It is always a desire of a researcher to choose a sample that will represent proportionately all sub-groups in the population. The stratified sample is usually suitable for heterogeneous/varied population. The stratified sampling encompasses the universe being divided into number of strata which are reciprocally limited and members of which are homogeneous with regards to appearances such as gender, home language, income levels, and level of education or age (Rubin and Babbie 2005, Creswell 2013).

The Stratified sample ensures that different groups or segments of the population acquire sufficient representation in the desired sample. The following are the steps to be followed in stratified sampling (Grinnell and Williams 1990, Creswell 2013):

- i. Identification of various strata with regards to variables of interest. For example; Industrial Cluster CEO, Sector Managers, Juniors Managers etc;
- ii. Differentiated sampling frames are recognized for each stratum with a listing of all the members/elements who fall into that stratum;
- iii. A number is assigned to each member in each group;
- iv. Within a total population a percentage of each group is established and each spectrum from the selected number is calculated accordingly; and
- v. Individual members from the spectrum are selected in term of the required numbers using a table of random numbers.

The following are steps to calculate the strata samples:

- i. To determine how large is the total sample and
- ii. To determine the ratio at which the total sample should be assigned among the strata with both comparable and disproportionate options available to the researcher.

d. Cluster Sampling

The cluster sampling is often referred to as area or multistage sampling (Stoker 1985, Rubin and Babbie 2005). The cluster sampling is usually used where the population is too large for random sampling. The cluster sampling is also considered when economic reforms and cluster criteria are substantial for the study. This method of sampling has some returns of concentrating in the field of study in a specific section of the greater geographic area and thus helps to save costs and time. It is further recommended that each cluster should represent the whole population but the variations between clusters must be small. Unlike stratified sampling where cases are drawn from stratum. Cluster sampling usually draws cases from those selected for sample (Teddlie and Yu 2007, Strydom 2011).

Cluster sampling involves at least stage procedure where a random sample cluster is first drawn and then random sample fundamentals within each cluster are selected. The more cluster samples are included in the study, the more representatives of the population the sample unsurprisingly is. Therefore it is fruitless and wasteful of resources to include a whole country in the case of the national surveys, in which cases cluster sampling has great value, although some loss of accuracy in the sample is unavoidable. The more clusters are drawn the less the errors will occur however the costs of undertaking it are very high. It is however recommended that the balance in between the sizes of the sample be maintained in a bid to ensure that the sizes of the samples will not initially be too large and later too small or reciprocal (Stoker 1985, Strydom 2011, Tuli 2011).

e. Systematic Random Sampling

In this instance, numbers are drawn systematically from the table. Numbers are selected in a particular interval such as 10th, 20th, 30th and so on (Sekaran and Bougie 2003, Rubin and Babbie 2005).

The systematic random sample has the following features:

- It is suitable for all sizes of the population;
- The costs associated with conducting a research are very low;
- It is relatively easy to explain;
- In actual fact there is a thin line between simple random sampling and systematic sampling and
- There is little influenced by the researcher.

The researcher drew the sample from the population of five industrial clusters supported by Department of Economic Development, Tourism, and Environmental Affairs. Each cluster has its own membership. Research instruments were sent to 160 members of all five clusters through the executive directors of the respective clusters.

Table 4.4: A comparative summary of various types of sampling

Type	Description	Advantages	Disadvantages
Simple random sampling	Each element from the population has got equal chance of being selected into the sample. Random number table/generator is being used to draw sample	It is easy and simple to implement using digital or computerised system.	This type of sampling takes too long to implement and it uses large size of sample with too much errors and it's expensive to use.
Systematic random sampling	The systematic random sampling at the start it selects element of the population randomly and selects sampling fraction every kth element.	This type of sample is easy to design and use than simple random sampling. It is simple to discover sampling distribution of mean or proportion. And it is less costly than simple random sampling.	The length within the population may twist the sample and results. If the population list has the sequential trend, a biased estimate will have an outcome based on the start point.
Stratified sampling	The population is divided into sub populations or strata. The sampling uses the simple random sampling on each strata. The outcomes may be weighted and combined.	In this instance the researcher take charge of the sample size in strata. This type of sampling has increased statistical proficiency. Data is presented and analysed into sub groups. This enables the use of different methods in strata.	There are number of errors in each sub group selected at different rates. This sampling is costly especially if strata on the population have to be created.
Cluster sampling	The population is divided into various subgroups. Those randomly selected are due for further study.	This system is unbiased in terms of estimating the population parameters on proviso it is properly done. It is	This system use less statistic and it yield more errors due to sub groups being homogenous rather than heterogeneous.

		<p>economically resourceful than simple random sampling. It is less costly especially with geographic clusters. Easy to undertake without the available population.</p>	
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Source: Saunders (2011)

Figure 4.4 shows different types of sampling which were discussed at length above.

4.3.5. Data collection

Data collection is one of the critical aspects of the research. The study plan included the actual primary data collection process as well as the data analysis plan (Saunders 2011, Strydom 2011). The following were critical for data collection and data analysis:

- ✓ The layout of the research mechanism – The researcher ensured that all aspects of the research were covered in the research instrument. Each area was synchronised in order to be aligned with the subject matter (Bezuidenhout, Davis et al. 2014).
- ✓ Documentation of the appropriate statistical technique – Based on the magnitude of the study, the researcher used the SPSS technique for analysing and interpreting the results (Kinnear and Gray 1999).
- ✓ Data management and layout – The researcher used graphs and tables in order to analyse and interpret the results (Adcock 2001).
- ✓ Pilot Study – The researcher conducted a pilot study to two individuals. One is the practitioner and the other is the member of the cluster.

The purpose of the study was to ascertain accuracy, time to complete the instrument and the user-friendliness (Gravetter and Forzano 2003).

4.3.6. Questionnaire

The questionnaires are the data collection instruments which are frequently used for research purposes (Strydom 2011). The questionnaires were used to assist the researcher in posing questions to the research sample.

The researcher crafted the research instrument in order to find answers and solutions to the research problem (Neuman and Kreuger 2003, Rubin and Babbie 2005). The researcher designed a questionnaire based on the research questions. There are twenty (20) research questions. For the purpose of this study, the researcher ensured that all questions presented to the respondents were with the same wording and there were no demographic questions. The research instruments were sent to 160 respective cluster members via emails. The questions were presented in the Likert Scale (Creswell and Clark 2007, Saunders 2011). The following were the expected responses based on a Likert Scale:

Table 4.5: Likert Scale

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
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Source: Adapted from Saunders (2011)

The above figure indicates the degree of the responses from strongly agree to strongly disagree. The Likert scale individual scores were added in a bid to establish a total score. There are some pros and cons of the usage of the surveys (Creswell 2013):

- ✓ It is less costly;
- ✓ It saves time than other research methods;
- ✓ Questionnaires sent to individual respondents which encourages privacy and anonymity;
- ✓ An unlimited number of data could be collected without a challenge.

Even though there is a number of advantages from using the survey, however, there also challenges (Sekaran and Bougie 2003):

- ✓ The researcher must be well conversant with the subject in order to circumvent errors;
- ✓ At some point, surveys tend to be a mock. They present fictitious results.

4.3.7. Data Analysis for Quantitative Research

The Quantitative data is the statistical data collected through a planned research format where the data is processed and analyzed in accordance with the numerical occurrences to the complex presentation of data in graphs or charts (Sekaran 1983, Stoker 1985, Strydom 2011).

During the data analyses process, the researcher ensured that there were no assumptions made regarding the data collected. In this instance the content data analysis allowed the researcher to analyse data and thereby established the intercoder reliability (Teddle and Yu 2007, Strydom 2011). The content data analysis ensured the identification and taping of critical information. Therefore reliability of information in this regard was critical (Strydom 2011).

According to Saunders et al. (2003: 328) they added that quantitative data is categorized in two prongs:

- ✓ Categorical Data can be categorized into various groups in respect of certain criteria such as personal details or qualification.
- ✓ Quantifiable data – in this instance the data – is measured in values. The intervals and the ratios are used in analysing the data. Therefore the statistical technique is easy to use.

The use of the statistical methods

The researcher used the descriptive statistical methods in a bid to analyse the data (Sekaran and Bougie 2003). The use of statistical methods by the researcher has been made possible by the software statistical package such as Statistical Package for Social Sciences (SPSS) for Windows 7.0 (Kinnear and Gray 1999). The descriptive statistics were used to condense the data collected by a researcher into numerical values. The descriptive statistics involves the following (Rubin and Babbie 2005):

- ✓ Display of graphs and pictures;
- ✓ Reduce large quantities of data into tables and graphs; and
- ✓ Exhibition of summarized description of information in an easy format such as graphs and pie charts

4.4. Qualitative Methods

Qualitative research involves the qualities, experiences and the meaning related to the occurrences (Bezuidenhout, Davis et al. 2014). The use of qualitative research aimed at looking and describing the life experiences and the meaning of industrial clustering concept (Teddle and Yu 2007). In this instance, the researcher has been involved in the establishment and provision of the support measures to the industrial clusters in the province of KwaZulu-Natal.

Some of the industrial clusters were initiated by industries and others were established by government. The reasons cited by the government in establishing the industrial clusters were that there were market failures and therefore there was a need to intervene and fill the gap in a bid to stimulate economic growth and industrialising the KZN province. The researcher experienced various challenges in ensuring sustainability of some of the industrial clusters (Struwing and Stead 2001). The underpinning phenomenology of the study was to uncover the realities and experiences in a true meaning. The researcher ensured that the data or information about the industrial clusters depicts the authenticity and its raw nature (Dey 2003). The focal point was to analyse the discourse and challenges that hinder growth and prosperity within the industrial clusters in KwaZulu-Natal. The quantitative research method was looking at collecting data which was then reduced to numbers without interrogating further questions or seeking further clarity. Therefore it was necessary to test the reliability of the information collected during the quantitative research process (Creswell 2013) and (Sekaran and Bougie 2003). The qualitative research method is concerned with the explanations and observations about the realities which the quantitative research would have failed to establish (Strydom 2011). The use of the two methods was the augmentation of the void of information that could have been lost along the way of research (Creswell 2013).

4.4.1. Types of Research designs (Qualitative Research)

The following are five qualitative investigation methods that have proven to be frequently used (Creswell 2013):

a) Narrative Biography

Narrative biography refers to the assumption and perspective that a life of an individual is focused on a subjective definition and experiences of life (Gravetter and Forzano 2003, Schwandt 2007). The biographical method encompasses the individual life stories, writings, history, and autobiographies.

Therefore Creswell (2007:55-57) summarizes the methods of conducting the narrative research:

- a) Individual/s is selected for the purpose of gathering information about realities and life experiences.
- b) Then the information is categorised into the personal, historical and cultural framework.

- c) Then the information is analysed in a new framework which is referred to as a narrative biography.

b) Ethnography

The purpose of this type of research design is based on the anthropology studies. It focuses on the small actions undertaken by individuals. According to (Flick 2006, Creswell and Clark 2007) the ethnography method is a recitation and interpreting the cultural behaviour of the individual. In this instance conversation, voices and deliberations are recorded with the aim to interrogating cultural concepts and interpretation thereof (Flick 2006). The data is analyzed in a form of objective experiences. This method was never widely supported by many researchers and fell away due to supporting objectivism and complying with imperialism.

c) Phenomenology

The phenomenology refers to the lifeworld (Schwandt 2007). This research design interrogates the social life and conscious experience of the daily actions. It further discovers the concepts and structures of experiences in terms of form and meaning (Sekaran and Bougie 2003). The researcher has been working with the industrial clusters since 2004.

The issues, challenges, and experience of industrial clusters have been the everyday work. The information was gathered naturally and in various unstructured format (Elo and Kyngäs 2008). This kind of the research design was referred to as an empirical study of mundane practices (Flick 2006, Schwandt 2007). In this instance, the researcher is required to explore social life unbiased, open minded and therefore format the discourse by collecting ideas, topics that are usually taken lightly.

The qualitative research is a critical phenomenological approach in analysing the discourse. Data is collected in a form of newspapers articles, bulletins, files and in other forms. The traditional collection of data in a form of interviews or observations is not critical in this method (Schwandt 2007).

d) Grounded Theory

The grounded theory aims at establishing a substantive theory that is spanned by certain data. The grounded theory explicitly emphasizes on the development of a model or theory based on the social experiences (Sekaran and Bougie 2003, Flick 2006). The grounded theory is looking at engaging strategies of induction, deduction, verification, and validation (Creswell 2013). In this method, data is being generated through interactions which lead to questions and possible answers. Therefore concepts are developed through the collected data. In this case, the researcher used the grounded theory in developing concepts and themes. A research instrument was developed based on the experiences and incident of industrial clusters occurring on the daily basis. Concepts and themes were developed in a bid to develop a framework that was destined to support industrial clusters in the KwaZulu-Natal province. Some scholars referred to grounded theory as modernism which is embodied by the interpretation of realities and experiences which also include the employment of the qualitative methods and the data analysis (Schwandt 2007, Strydom 2011).

The researcher ensured not to fall into the trap of following common misguided errors made by many researchers when using the grounded theory (Strydom 2011):

- a) The grounded theory is not a leeway of not dealing with the literature;
- b) It is not a research method of offering a raw data;
- c) It is not a seamless and tranquil method, and
- d) It is not a theory testing, content analysis or word counting.

e) Case study

A case study is not methodological research. Unlike other research methods, it focused on what the researcher wants to undertake (Rubin and Babbie 2005). According to (Creswell and Clark 2007), case study encompasses a discovery of a bounded system or numerous cases over a specific time in a form of data collection. The case study method looks at a number of issues such as actions, events, or projects.

The description and navigation of the information take place in a form of data collection through publications, archives, or even interviews. The researchers of the case studies gather the information with the prior understanding of a specific literature at hand before undertaking a research (Rubin and Babbie 2005). The following are three types of the case studies (Creswell and Clark 2007):

- a) The descriptive case study, as it says, describes, examines, and construes the situation. It does not seek to gather vast information but merely to examine.
- b) The explanatory case study is also referred to as instrumental. The explanatory study is moulded on the basis of theory and new information that may influence strategists and policymakers (Mark 1996).
- c) The collective case study involves various cases and perceptions. Thereafter cases are consolidated and validated. The case study is increasingly used by many researchers as a scientific method of research with a great interest to understand issues but it is not suitable to do a large number of cases.

4.4.2. **Data collection**

The researcher used the two methods of data collection, that is, primary and secondary data (Grinnell and Williams 1990). The secondary data has been collected through desktop information such as journals, books, government policies and strategies, cluster strategic documents and annual reports (Dey 2003, Flick 2006). The primary research has been drawn through a rigorous process.

a) Purposive Sampling

The researcher used the multi purposive sampling which referred to as non-probability sampling or purposive strategies or qualitative sampling (Teddlie and Yu 2007). The purposive sampling is based on certain issues for a specific purpose instead of being unsystematic. The researcher had used the ten cluster representatives who are intimately involved with the issues of their respective industrial clusters. The researcher drew five (5) individuals who were project managers from the Department of Economic Development, Tourism, and Environmental Affairs.

These project managers had different portfolios of providing industry support measures to the respective industrial clusters. They had a better understanding of the eminent issues faced by the industrial clusters. The second group of individuals was the five (5) industry captains who were championing the respective industrial clusters. They had a full understanding of the purpose of their respective industrial cluster hence a reason for using the purposive sampling.

b) Developing of Questions for interview process

The critical point for the research design was that questions were crafted with the purpose in mind of formulating themes based on the responses. The language and the relevance of questions into the subject matter were critical (Strydom 2011). The researcher designed structured questions in a bid to get relatively synchronised answers from the respondents. The use of the structured question was to achieve results in an easy way rather than the unstructured questions where respondents have open-ended discussions which might have lost sight of the intentions of the study (Sekaran 1983, Saunders 2011).

There were twenty-six (26) questions that were drafted for the interview process. Each question addressed the issues contained in the research questions.

c) In-depth Interviews

The researcher used the structured interviews in a bid to get systematic and quick answers. The interviews were in a form of formal, written questions and based on the three research questions (Neuman and Kreuger 2003, Bezuidenhout, Davis et al. 2014). The interviews were the method of collecting data in a form of conversation in a structured and systematic way. The participants were consciously chosen on the basis of their experiences, knowledge, technical expertise as well as background to the research subject (Creswell 2013) and (Saunders 2011). The following were guiding principles which were adopted by the researcher in a bid to avoid common shortcomings during the interview process which would have had affected the reliability and validity of the results (Bezuidenhout, Davis et al. 2014):

- a) Being subjective;
- b) Open up general discussion not related to subject matter;
- c) Proposing responses;
- d) Supportive or not supporting with the respondent; and
- e) Portraying negative attitude and predisposition.

The researcher obtained permission from the Department of Social Science and Humanities for the ethical clearance to use audio equipment (Strydom 2011). The researcher got permission from the respondents to record the deliberations and proceedings of the interview. The audio recorded information provided an augmentation of information which was not taken by text notes during the interview process (Bezuidenhout, Davis et al. 2014). The duration of the recordings depended on the deliberation by each candidate. The average time was between 45 minutes to one hour.

4.4.3. Data Analysis

The qualitative content data analysis is referred to as the idiosyncratic elucidation of the collected data through the coherent cataloguing of themes and codes (Bezuidenhout, Davis et al. 2014). The qualitative data was collected through interviews, observations and field research which were denoted to an analysis of text (Rubin and Babbie 2005, Strydom 2011).

- a) The researcher ensured that the primary and secondary data collected were synchronised and processed according to the plan and themes – NVIVO (Creswell 2013).
- b) The researcher used the audio recorder to analyse the recorded information as well as the text note taken during the interviews.
- c) Themes were developed and classified according to their interconnectedness to develop a well-crafted and quality research paper.
- d) At the end, the study provided answers from multiple sources and it was chronologically structured in a bid to yield the intended results.
- e) The researcher used a deductive position by employing the existing theory to shape the process of analysis.
- f) The researcher ensured that the transcriptions of the recorded proceedings of the interviews were undertaken immediately after the interviews (Saunders 2011).

4.4.4. **Pilot Study**

A pilot study is a method of measuring the research instrument over a small group of individuals who are also intimately involved with the subject matter (Strydom 2011) and (Rubin and Babbie 2005). This encompassed the testing of the instrument and taking all different factors more especially in the data collection process, the length of the instrument, ambiguity, language and other ethical considerations. It was not aiming to test the probability hence the generalisation of findings (Neuman and Kreuger 2003).

a) Quantitative Pilot Study

The researcher developed a research instrument based on the research objectives and questions of the study. According to Neuman and Kreuger (2003), the pilot study focuses on the limited number of respondents from the same population.

The following were the critical issues that formed a guideline on what was tested with the draft instrument (Rubin and Babbie 2005):

- a) To test and discover the possible errors in the research instrument such as language and obscurity;
- b) To discover the flaws and unclear crafted questions; and
- c) To determine whether the controlled group had enough time to respond to the twenty (20) questions.

The researcher piloted the questionnaire to ten (10) members from five different industrial clusters (two members per each cluster) who were not going to participate in the main study (Sekaran and Bougie 2003, Saunders 2011). The following were the guiding issues given to the controlled group (Strydom 2011):

- a) The respondents were given careful instructions regarding the expectations of the study;
- b) To observe the time taken to complete the research instrument;
- c) To provide feedback in relation to the questions and the arrangement of the questionnaire, and
- d) To provide feedback within two days after receiving a questionnaire.

The following were discovered after careful consideration of the responses from the pilot group:

- a) The respondents reported that it took less than 15 minutes to complete the instrument;
- b) The instructions were user-friendly, easy to read and understand;
- c) The questions and arrangement of the instrument was well structured;
- d) The respondents were not sure about question 10. Clarity was given as it was necessary for question 10 to be answered.

In the quantitative pilot study, there were no changes in the research instrument and all questions were clear and unambiguous.

b) Qualitative Paradigm of the Pilot Study

The researcher interviewed two candidates using the qualitative method. The aim was to test the instrument in term of the ambiguity of the questions, the length, the responses and the language (Creswell 2013). Initially, there were thirty (30) questions. Due to the time is taken to interview the respondents and the responses thereof, the questions were scaled down to twenty-six (26) with the caution of not compromising the intentions of the study.

The respondents felt that some of the questions were identical and some questions were reconstructed and combined. After the second round of administration of the questionnaire to the controlled group, the respondents answered all questions within one (1) hour without hurdles. The following were the questions taken out of the structured questions:

- a. What are the necessary tools required to propel your business?
- b. What are the benchmarking standards for the industrial cluster to succeed?
- c. What are the main reasons that led to an industry/company to quit the industrial cluster?
- d. What are the industry expectations in joining the cluster?

The respondents were motivated at the beginning in a bid to encourage them to respond to the questions to the best of their ability and be honest since the exercise was critical in ensuring that the instrument yield the positive results (Neuman and Kreuger 2003).

4.5. Measuring reliability and validity for both Qualitative and Quantitative research

a. Quantitative Research

- **Reliability**

The reliability refers to the end results yielded by the research instrument (Strydom 2011). The reliability encompasses the consistency of the instrument; it will yield the same results tested to different participants (Bezuidenhout, Davis et al. 2014). Creswell (2009) pointed out that at some point sources of error might occur during the data collection hence the reliability of the end results.

Therefore it was critical for the researcher to ensure that the questions were succinct, clear and unambiguous in a bid to avoid different interpretations. In this instance, there are different types of reliability and they are applied differently. The reliability in this regard is very high in the quantitative method. The researcher employed the most commonly used reliability measure referred to as **Cronbach's Alpha Coefficient** (Sekaran 1983, Rubin and Babbie 2005).

Figure 4.1: Cronbach's Alpha Coefficient formula

$$\alpha = \left(\frac{K}{K-1} \right) \left(1 - \frac{\sum V_i}{V_T} \right)$$

Source: Adapted from (Rubin and Babbie 2005).

- **Validity**

Validity is defined as the experimental degree that sufficiently reveals the true meaning of the research subject (Rubin and Babbie 2005, Strydom 2011). Further, validity is the instrument that measures what is supposed to measure. In the quantitative method, the validity is very low as compared to reliability. The following are four commonly used categories of validity (Strydom 2011, Creswell 2013):

- i. **Content Validity** – refers to the initial stage of the processes including enough content and elements of what is supposed to measure. The researcher used the content validity in crafting quality content in order to yield the intended results.

The economic and industrial development journals, strategies and business plans, policies both local and national, position papers were used to craft quality content.

- ii. **Face Validity** – it is the recent and simple scientific apparent presence of a number of dimension principles. The face validity is concerned about how well the instrument is designed and how hypothetical looks like. The researcher worked with the statistician in crafting the research instrument in order to yield the intended results.
- iii. **Criterion Validity** – focuses on the objectiveness of the measurement. It involves the comparison of end results of concepts, attitudes, personality attributes and traits.
- iv. **Construct Validity** – it is the most difficult and the lengthy method to use. It uses multiple sources for validation.

b. Qualitative Research

The criteria for assessing the good quality research in respect of qualitative methods is different from the quantitative method (Lincoln and Guba 1999, Adcock 2001) (Strydom 2011). Lincoln and Guba (1999) believed that qualitative research involves laborious and systematic approach in undertaking research. There were strong proponents of the qualitative research as it provides various forms of assessment such as peer reviewing, triangular approach, references, and experiences drawn from subjects (Saunders 2011). The process of qualitative assessment is more intimate (Creswell and Miller 2000). Lincoln and Guba (1999) proposed four critical theories of qualitative research that is more precise:

- i. **Credibility/authenticity** – this form of the procedure involves the checking of credibility of the information by cross-referencing back to the subject in order to authenticate the validity of the information (Rubin and Babbie 2005).

- ii. The researcher used one of the known procedures for validating the information by consulting and cross-referencing from industry participants (Project Managers leading industrial cluster within the Department of Economic Development, Tourism, and Environmental Affairs) in a bid to authenticate the information (Strydom 2011).
The participants believed that this method was authentic as it portrayed a real picture of the experiences and challenges they were facing in dealing with the issues of their respective industry clusters.
- ii. **Transferability** – This method is regarded as one of the strategies that are problematic and challenging in testing validity (Lincoln and Guba 1999). Creswell (2000) referred to this approach as the alternative to external validity. The protagonists of this approach believe that this strategy could enhance the study's generalizability as the information is drawn from various sources which have the strength of validation, amplification, and irradiation of the study (Rubin and Babbie 2005, Creswell 2013). The outcomes of the study concentrated on the implementation of the framework on how industrial cluster should be supported by government and private sectors.
- iii. **Dependability** – This approach refers to the structure of the document in terms of the chronological sequence of information, keeping the record of data analysis, the journals, and other data sources. This is also compared to reliability in terms of the quantitative approach (Strydom 2011). For the purpose of the study, the researcher considered dependability by analysing the research participants (Industry Clusters) in terms of experiences, background, and industry development. This has ensured the strengthening of the research document in terms of being reliable (Dey 2003). This approach also eliminated the element of biases. The business plans, government policies, position papers were used in order for the study to be relevant.
- iv. **Conformability** – this strategy refers to the structure of the research on how well the data was collected and how it was aligned with the end results and intentions of the study (Lincoln and Guba 1999).

This approach was used as it involved a well-constructed and objective document that flowed for the ease of others to interrogate and analyse without any challenge and difficulty (Bezuidenhout, Davis et al. 2014). The researcher ensured that the research design was well crafted with clear objectives and the use of the relevant theoretical framework, scholarly views and opinions (Flick 2008). The records of data collected and tapes used during the interview were used in conjunction with the literature and scholarly journals.

Table 4.6: Comparison of the expressions in qualitative and quantitative research

Qualitative Expression	Quantitative Expression
Credibility	Internal validity
Transferability	External validity
Dependability	Reliability
Conformability	Objectivity

Source: Adapted from (Lincoln and Guba 1999).

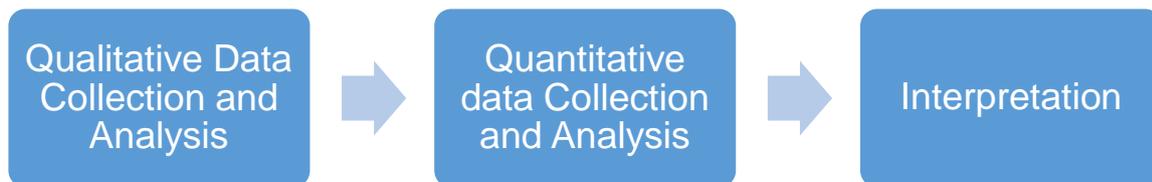
Figure 4.6 indicates the summary of comparison of the expressions in qualitative and quantitative research. This table has been discussed in-depth above.

4.6. Mixed Methods Research Design

The researcher used the mixed method in undertaking the study. The use of the mixed method was to ensure that the study was reliable and valid in terms of its intended purpose and the objectives (Creswell 2013). There are four critical types of the mixed method designs, that is, exploratory design, the explanatory design, the triangulation design and the embedded design (Creswell 2009, Strydom 2011). The following are a brief description of the mixed method design and the option used by the researcher (Creswell and Clark 2007, Bezuidenhout, Davis et al. 2014):

- a) **Exploratory mixed method design** – This method is mostly used when the researcher requires determining first the qualitative occurrence before measuring quantitatively. In this case, the researcher discovers occurrences before developing themes and interpretation of the results.

Figure 4.2: Exploratory Mixed method Design



Source: Adapted from (Creswell 2009, Strydom 2011)

- b) **Explanatory Mixed Method Design** – This method follows a two-pronged approach. The process begins with the quantitative data collection and analysis and augmentation process of qualitative data collection and analysis (Bezuidenhout, Davis et al. 2014).

The known reason for applying this process was that the augmentation by qualitative design assists to support the quantitative statements by providing explanations (Creswell and Clark 2007). The recompense of using this design method is that it is user-friendly and easy to implement. The researcher did not use this method.

Figure 4.3: Explanation Mixed Method Design



Source: Adapted from (Creswell and Clark 2007)

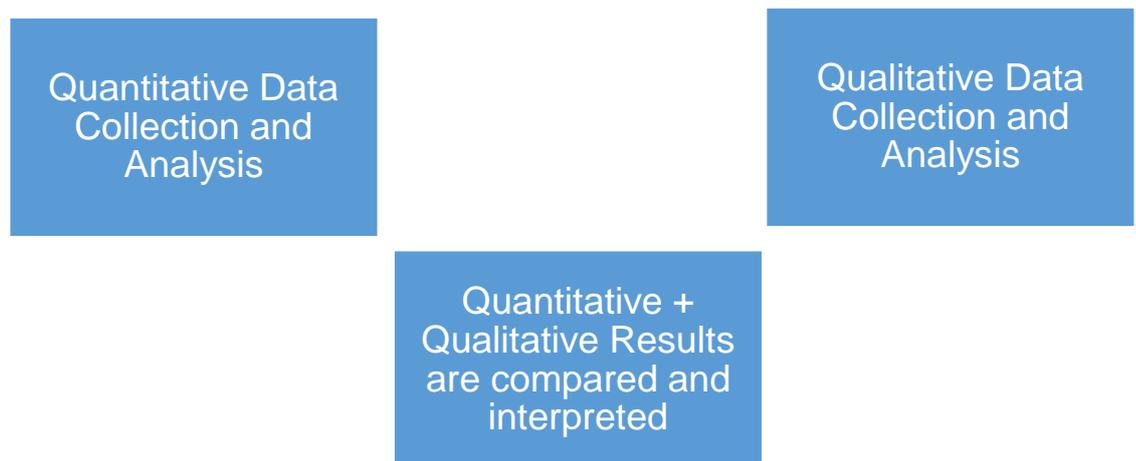
c) Triangulation Mixed Method Design

This method is well known and it was used by many researchers. The researcher used this method as qualitative and quantitative research designs were applied simultaneously with equal opportunities when collecting and analysing the data. The advantage of using this research design was that it enabled the researcher to equate and authenticate the outcomes (Creswell and Clark 2007, Creswell 2013).

The researcher used this research design in collecting and analysing the data of the industrial clusters. There were ten respondents used for qualitative design and more than 150 respondents returned their questionnaires. The researcher analysed both the collected data simultaneously in a bid to achieve optimum results. The researcher discovered that this research design was less time consuming than other methods.

The end results proved that the qualitative and quantitative research method designs were aligned and the reasons were due to the selected population, understanding of the subject and aligned questions in both the structures questions and research instrument (Strydom 2011).

Figure 4.4: Triangulation Mixed Method Design



Source: Adapted from (Creswell and Clark 2007, Strydom 2011).

- d) **Embedded Mixed Method Design** – This method use one set of data for subordinate role based on the primary data of the other research design. The motive of the combined data set is that there has to be sufficient data that will provide unanswered questions or to provide clarity hence the data is embedded to each other (Creswell and Clark 2007).

Figure 4.5: Embedded Mixed Method Design



Source: Adapted from (Strydom 2011) and (Creswell and Clark 2007)

In this instance, the results from each research design are compared. It is easy to use and it is based on the phenomenological design.

4.7. Limitations of the Study

Most studies have revealed that there are shortcomings or constraints that are beyond control by the researcher (Bezuidenhout, Davis et al. 2014). These limitations are at some point associated with the limited resources to complete the project, time constraints and access to the gatekeeper's letter. The researcher made formidable strides in minimizing the shortcomings. The following were some of the critical issues that the researcher ensured that they were accomplished before the study was undertaken (Strydom 2011, Creswell 2013, Bezuidenhout, Davis et al. 2014):

- a) The subject matter was introduced to the organisation which was going to issue a gatekeeper's letter. This was undertaken in a bid to circumvent delays when collecting the data.

- b) Resource material was collected during the development of the research proposal. This also assisted in ensuring that there were enough resource materials.
- c) The researcher is intimately responsible for the development and provision of support to some of the industrial clusters which assisted in accessing some of the sample and information.

The following were some challenges relating to the study (Saunders 2011):

- a) Some respondents were not willing to provide information as they cited time constraints.
- b) Some industrial clusters were facing challenges of co-ordination which made it difficult in reaching out to some members.
- c) Financial resources were a challenge in terms of travelling to seek information.

4.8. Elimination of biases

Biasness is prevalent in many studies and it is not easy to circumvent (Struwing and Stead 2001). It is crucial therefore to ensure that biases is eliminated in order to ensure the validity of the study. There were twenty-six (26) structured qualitative questions and twenty (20) quantitative questions. Therefore the following were taken into consideration by the researcher in a bid to limit the errors and misinterpretations (Gravetter and Forzano 2003, Bezuidenhout, Davis et al. 2014):

- a) The questions were crafted succinct and clear with a clear focus.
- b) Respondents were given clear guidelines before the interviews.
- c) The questions were unambiguous with a sole characteristic.
- d) Ethical considerations were taken into account regarding questions that could have possible affronted the respondents.
- e) The researcher ensured that the interviews flowed logically without interruption.

4.9. Conclusion

This chapter was characterized by the logical sequence of events that were employed by the researcher in ensuring that the pursued research paper becomes a success. The researcher embarked on the mixed method which in this regard was to ensure that there were limited errors and the study became valid and reliable. The next chapter focuses on the analyses of data using the statistical method for quantitative and NVIVO for qualitative methods.

Chapter Five

Data Analysis

5. Introduction

This chapter presents research findings that were obtained during the data collection. The study is a mixed method which aimed at addressing the research problem based on the three study objectives. The quantitative research was based on the sample size of 150 respondents and there were 20 structured questions based on the research objectives. The research instrument was sent to five (5) industrial clusters (Maritime Cluster; Textile and Clothing Cluster; Fashion Council; Music Cluster and Furniture Cluster). The qualitative research was based on the five (5) industrial clusters. There were ten (10) candidates representing five (5) industrial clusters. All twenty-six (26) questions were based on the research objectives. Each cluster was represented by two (2) candidates both from government and the industrial cluster. The first part will be the presentation of Quantitative Analysis and the second part will be the Qualitative Analysis.

5.1. Quantitative analysis of Industrial Clustering

There were twenty quantitative questionnaire items which aimed at addressing issues around Industrial Clustering as a tool to enhance the competitiveness of the KwaZulu–Natal economy. Since these twenty items were addressing a mixture of themes, there was a need to explore ways of sub-dividing them into sub-groups that will, hopefully, be identifiable. The statistical method of exploratory factor analysis was used to break the twenty questionnaire items into sub-constructs. Summary statistics of the sub-constructs and relevant inferential statistics are then presented in subsequent sections. Principal components based factor analysis, with varimax rotation, was used to subdivide the twenty questionnaire items into sub-constructs with most appropriate construct names.

5.2. Exploratory factor analysis of the twenty Industrial Clustering items

After conducting principal components based factor analysis, four sub-constructs of Industrial Clustering were obtained. The results are presented in Table 5.1 below.

The first sub-group of questionnaire items is made up of questions Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, and Q20. This group of questions is addressing the benefits of industrial clustering hence the name of this group or construct is “Industrial Clustering Benefits and Organisational Competitiveness”. The Industry cluster competitiveness is addressed in this group of exploratory items. The industry feels that continuous improvement (KAIZEN), technological advancement, innovation, information sharing, production efficiencies and the creation of jobs. These factors are highly related in propelling the growth and development of the industrial clusters.

The second sub-group of questionnaire items is made up of questions Q5, Q6, Q7, Q8, and Q9. This group of questions addresses the issues of industry and government stirring actions towards industrial clustering including the financing, policy development and strategy hence the name of this group of items or construct is “Industrial Clustering: Government-industry partnership actions towards Industrialisation”. The government intervention in policy and strategy formulation is critical in levelling the foundations of the industry to grow. In this instance government sets programmes that are destined to grow the economy of a particular country in a bid to create the much needed jobs, alleviation of poverty and industrialising the economy.

The third sub-group of questionnaire items is made up of questions Q1, Q2, Q3 and Q4. This group of questions deals with who should take the initiative in setting up the industrial clusters including the facilitation of such clusters. The name for this group or construct is “Industrial Clustering policy formulation and facilitation”. The formulation and facilitation of the policies is crucial for industries to participate fully into the programmes set by government in order to benefit. In this instance industry clusters are encouraged to work together in order to ensure that the incentives created by government benefit the collective.

Table 5.1: Exploratory factor analysis results

Questionnaire Items for Industrial Clustering	Principal Components (Latent factors)			
	1	2	3	4
Q17. Industrial clustering promotes new entrants to benefit from the large firms	0.901			
Q20. Industrial clustering encourages knowledge sharing	0.880			
Q19. Industrial clustering encourages private public partnership	0.871			
Q16. Industrial clustering encourages production efficiencies	0.856			
Q14. Industrial clustering reduces production costs	0.853			
Q15. Industrial clustering promotes continuous improvement (Kaizen)	0.843			
Q18. Industries that produce related goods or services benefit if they are located within the spatial proximity	0.837			
Q13. Industrial clustering promotes innovation/creativity	0.724			
Q11. Industrial clustering promotes the maximization of the economies of scale	0.618			
Q12. Industrial clustering creates sustainable jobs	0.614			
Q7. Industry related sectors are encouraged to form clusters thereby benefiting from the cluster programme		0.756		
Q9. Government should support industrial clusters with a strong institutional framework to avoid mismanagement of resources		0.721		
Q8. Industries should show commitment before approaching government for support		0.688		
Q6. Government should develop a provincial programme dedicated for industrial clusters		0.616		
Q5. Government should set aside funding to support clusters		0.527		
Q4. Government should develop industrial policies in enhancing competitiveness of local firms			0.768	
Q1. Government should initiate Industrial clusters			0.703	
Q3. Government should play a facilitation role in supporting clusters			0.649	
Q2. Industries should take the initiative in forming clusters			0.621	
Q10. Industries already receiving support from government should be excluded from the cluster programme				0.618
Cronbach's Alpha	0.955	0.821	0.587	-
Suggested Construct name	Industrial Clustering Benefits	Government/industry partnership and actions	Government-industry initiation and facilitation	Industrial Clustering exclusion criteria

The fourth and last construct consists of only one questionnaire item, that is, Q10 (Industries already receiving support from the government should be excluded from the cluster). This construct is pointing to the whole industrial clustering programme that it should have an exclusion clause which in turn suggests that potential companies for inclusion are those which might have been neglected by the government. This construct is labelled as exclusion criteria.

5.3. Descriptive statistics for Industrial Clustering Benefits and Organisational Competitiveness

The benefits and organisational competitiveness of industrial clustering can be broadly grouped into two categories, namely, industrial clustering benefits and organisational competitiveness benefits. These two categories are discussed in the two sections that follow. Results for the construct of Industrial Clustering Benefits and Organisational Competitiveness are presented in Table 5.2 below. On all the 10 items that make up the construct, there was overwhelming approval of the programme, particularly as far as its benefits are concerned. It can be noted that questions 11, 12, 13, 14, 15 and 16 are main benefits that are aimed at the organisational competitiveness while questions 17, 18, 19 and 20 are about industrial clustering synergies between companies.

5.3.1. Organisational Competitiveness/Individual company benefits

The results in Table 5.2 show that 97.3% of the respondents agree or strongly agree that industrial clustering promotes the maximization of the economies of scale while 94.0% agree or strongly agree that industrial clustering creates sustainable jobs. The majority of the respondents (96.7%) indicated that industrial clustering promotes innovation/creativity, 95.3% indicated that industrial clustering reduces production costs, 98.0% indicated that industrial clustering promotes continuous improvement and 97.3% indicated industrial clustering encourages production efficiencies. In all items that are about organisational competitiveness/individual company benefits to be derived from industrial clustering, there was high approval rating.

5.3.2. Industrial Synergies between companies

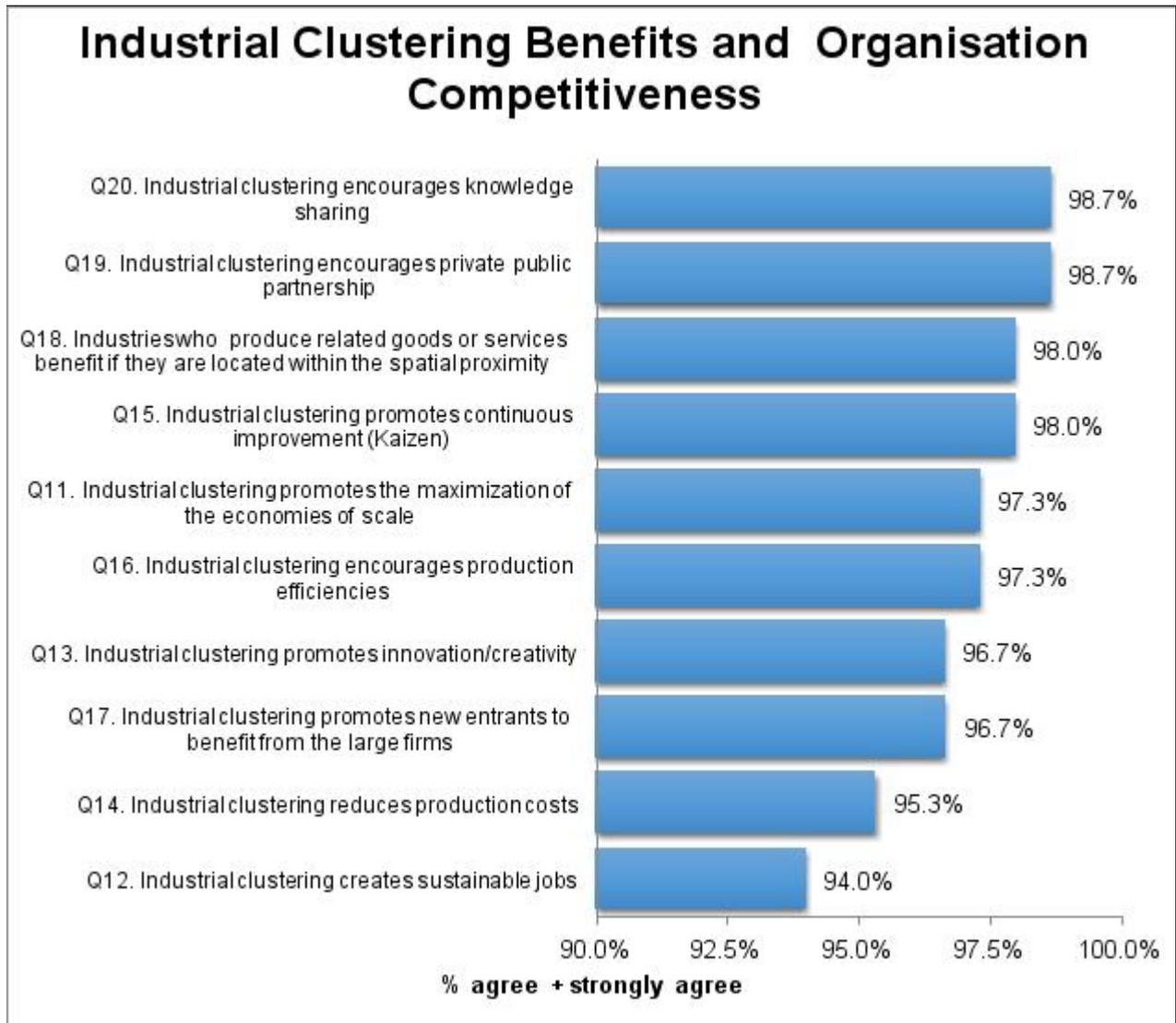
The last four questions presented in Table 5.2 are the benefits industrial clustering in terms of synergies between companies. The results show that 96.7% of the respondents agree or strongly agree that industrial clustering promotes new entrants to benefit from the large firms, 98.0% indicated that industries who produce related goods or services benefit if they are located within spatial proximity, 98.7% indicated that industrial clustering encourages private and public partnership and 98.7% indicated that industrial clustering encourages knowledge sharing. The respondents seem to be embracing the concept of industrial clustering with enthusiasm as indicated by the high approval ratings in both individual company benefits and corporate community benefits.

Table 5.2: Descriptive statistics for Industrial Clustering Benefits

Industrial Clustering Benefits	Descriptive Statistics				Latent Factor (Principal component) Coefficient
	n	% Agree/ Strongly Agree	Mean	Std Dev	
Q11. Industrial clustering promotes the maximization of the economies of scale	150	97.3%	4.37	0.54	0.747
Q12. Industrial clustering creates sustainable jobs	150	94.0%	4.31	0.6	0.742
Q13. Industrial clustering promotes innovation/creativity	150	96.7%	4.33	0.59	0.8
Q14. Industrial clustering reduces production costs	150	95.3%	4.33	0.59	0.873
Q15. Industrial clustering promotes continuous improvement (Kaizen)	150	98.0%	4.38	0.55	0.874
Q16. Industrial clustering encourages production efficiencies	150	97.3%	4.33	0.55	0.856
Q17. Industrial clustering promotes new entrants to benefit from the large firms	150	96.7%	4.31	0.55	0.91
Q18. Industries who produce related goods or services benefit if they are located within the spatial proximity	150	98.0%	4.33	0.51	0.85
Q19. Industrial clustering encourages private public partnership	150	98.7%	4.37	0.51	0.902
Q20. Industrial clustering encourages knowledge sharing	150	98.7%	4.37	0.51	0.905
Cronbach's Alpha			0.955		
% of total variation accounted for by latent factor			71.89%		

Figure 5. 1: shows the 10 Industrial Clustering Benefits when they are ranked in order of the most popular or has the highest percentage agreeing or strongly agreeing.

Figure 5.1: Summary of Industrial Clustering Benefits



5.4. Descriptive statistics for Government/Industry partnership and actions towards Industrialisation

The construct of Government/Industry partnerships and actions towards industrialisation has four items that are summarised in Table 5.3 below.

The partnership actions can be divided into two groups, namely, those which require government action and those which require industry action. The items that talk mainly about government actions are questions 5, 6 and 9 while questions 6 and 8 talk about industry actions.

5.4.1. Government initiatives and actions towards industrialisation

Results in Table 5.3 show that 99.3% of the respondents agreed or strongly agreed that government should set aside funding to support clusters, 98.0% indicated that government should develop a provincial programme dedicated for industrial clusters and 97.3% indicated that government should support industrial clusters with strong institutional frameworks in order to avoid mismanagement of resources. All this points to the fact that there is need for government action in fostering the industrial clustering initiative in order to industrialise the KZN province.

Table 5.3: Descriptive statistics for Government/Industry partnerships

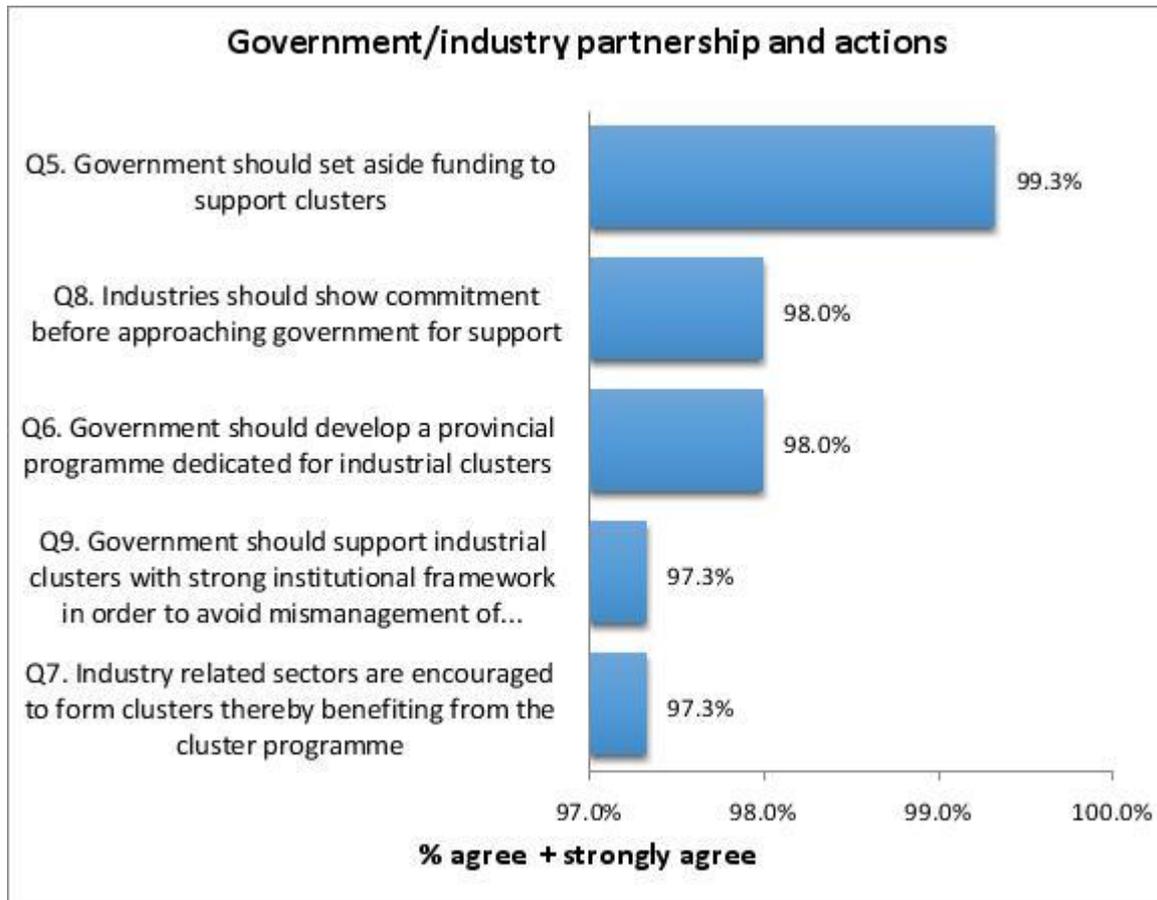
Government/industry partnership and actions	Descriptive Statistics				Latent Factor (Principal component) Coefficient
	n	% Agree/ Strongly Agree	Mean	Std. Dev.	
Q5. Government should set aside funding to support clusters	150	99.3%	4.47	0.54	0.745
Q6. Government should develop a provincial programme dedicated for industrial clusters	150	98.0%	4.4	0.56	0.780
Q7. Industry related sectors are encouraged to form clusters thereby benefiting from the cluster programme	150	97.3%	4.46	0.55	0.854
Q8. Industries should show commitment before approaching government for support	150	98.0%	4.41	0.56	0.726
Q9. Government should support industrial clusters with strong institutional framework in order to avoid mismanagement of resources	150	97.3%	4.39	0.64	0.723
Chronbach's Alpha		0.821			
% of total variation accounted for by latent factor		58.86%			

5.4.2. Industry initiatives and actions towards Industrialisation

Results in Table 5.3 show that 97.3% of the respondents agreed or strongly agreed that industry related sectors are encouraged to form clusters thereby benefiting from the cluster programme and 98.0% indicated that industries should show commitment before approaching the government for support.

This shows that the clarion call to participation in the formation of industrial is on both fronts, that is, the government front and the industry front. The items that represent the Government/industry partnership and actions towards industrialisation construct are ranked in Table 5.3 which shows government actions at the top of the list.

Figure 5.2: Summary of Government/Industry partnership and actions towards Industrialisation



5.5. Descriptive statistics for Government/industry initiation and facilitation

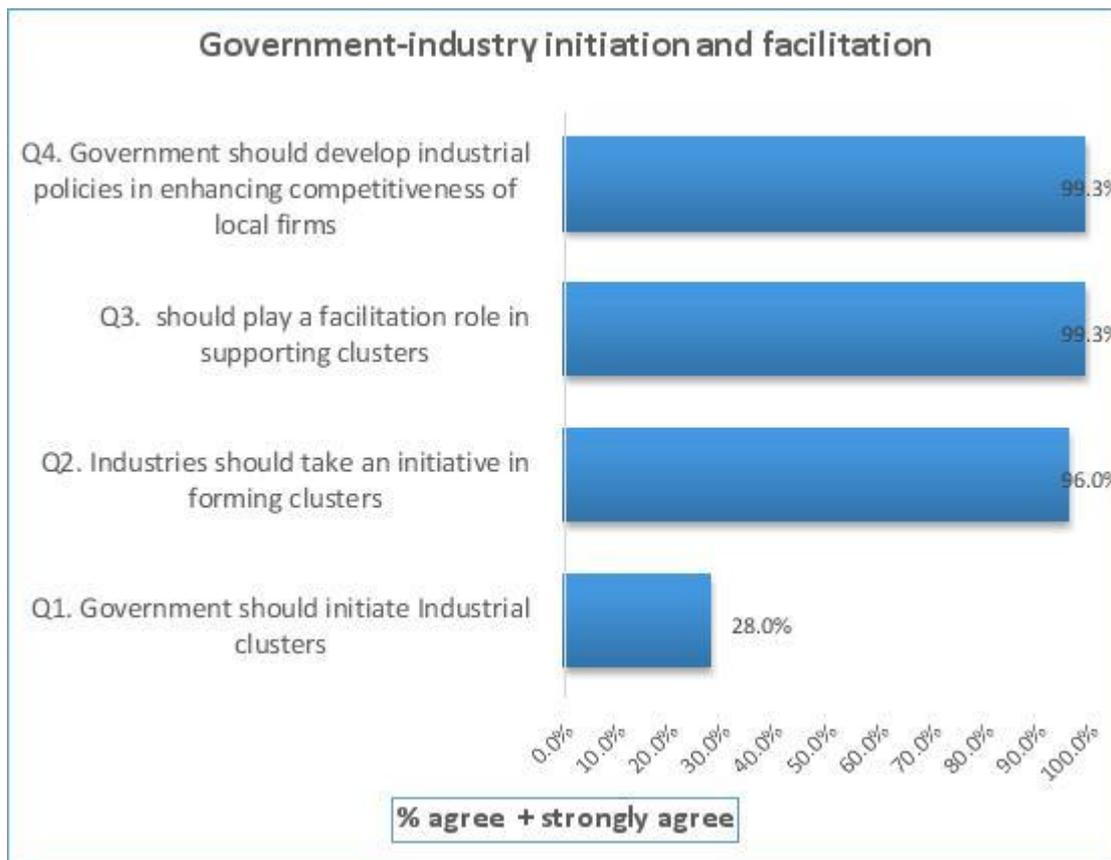
Most of the respondents believe that government should not play the leading role in the initiation of industrial clusters. Only 28.0% of the respondents agreed or strongly agreed while 40.0% strongly disagreed with 21.3% disagreeing. This means that most of the respondents believe that industry itself should do some self-organisation and come up with industrial clusters they see fit. This is buttressed by the fact that 96.0% believe that industries should take an initiative in forming clusters.

Table 5.4: Descriptive statistics for Government/Industry partnerships

Government-industry initiation and facilitation	Descriptive Statistics				Latent Factor (Principal component) Coefficient
	n	% Agree/ Strongly Agree	Mean	Std Dev	
Q1. Government should initiate Industrial clusters	150	28.00%	2.47	1.56	0.678
Q2. Industries should take an initiative in forming clusters	150	96.00%	4.31	0.67	0.669
Q3. Government should play a facilitation role in supporting clusters	150	99.30%	4.37	0.5	0.828
Q4. Government should develop industrial policies in enhancing competitiveness of local firms	150	99.30%	4.45	0.51	0.798
Chronbach's Alpha	0.587				
% of total variation accounted for by latent factor	55.73%				

Most respondents (99.3%) believe that after the industry clusters are formed through the initiative of concerned industries, the government should play a facilitation role in supporting the industrial clusters while 99.3% of the respondents believe that government should develop industrial policies in enhancing the competitiveness of local firms. As expected, the government is called upon to lead in the legislation of the so formed industrial clusters.

Figure 5.3: Summary of Government-industry initiation and facilitation



5.6. Descriptive statistics for industrial clustering exclusion criteria

There is a need to be clear on who should be part of the industrial clusters. To this end, question 10 sought the options of respondents on who should be included in the industrial clustering programme. Table 5.5 indicates that there is an agreement on industries already receiving support from the government should be excluded from the cluster programme as only 27.3% agreed or strongly agreed to the question addressing this matter. On the other hand, there seems to be strong disagreement to the exclusion of industries already enjoying some forms of government support as 25.3% strongly disagreed with 27.3% disagreeing and 20.0% neutral.

Table 5.5: Descriptive statistics for Government/Industry partnerships

Government-industry initiation and facilitation	Descriptive Statistics			
	n	% Agree/ Strongly Agree	Mean	Std. Dev
Q1. Government should initiate Industrial clusters	150	27.30%	2.6	1.3

5.7. Correlations between variables

Results presented in Table 5.6 indicate that there is a strong correlation between Individual company benefits and benefits derived from Synergies between companies (correlation=0.830, p-value<0.001). In fact, there are significant correlations between all variables except the exclusion criteria of some Industries.

Table 5.6: Correlation between variables

Pearson Correlations		Organisational Competitiveness benefits	Industrial Synergies between companies	Government initiatives and actions towards industrialization	Industry initiatives and actions towards industrialization	Government-industry initiation and facilitation
Organisational Competitiveness benefits	Correlation p-value N	-				
Industrial Synergies between companies	Correlation p-value N	0.830** <0.001 150	-			
Government initiatives and actions towards industrialization	Correlation p-value N	0.528** <0.001 150	0.455** <0.001 150	-		
Industry initiatives and actions towards industrialization	Correlation p-value N	0.511** <0.001 150	0.432** <0.001 150	0.750** <0.001 150	-	
Government-industry initiation and facilitation	Correlation p-value N	0.363** <0.001 150	0.352** <0.001 150	0.538** <0.001 150	0.464** <0.001 150	-
Exclusion of some Industries	Correlation p-value N	0.156 0.056 150	0.127 0.121 150	0.100 0.224 150	0.106 0.196 150	0.147 0.073 150
**. Correlation is significant at the 0.01 level (2-tailed).						

5.8. Introduction – Qualitative Analysis

The qualitative research analysis is based on the three (3) research questions that are investigated. Further, this section seeks to find solutions on the opinions and views of the interviews conducted by ten (10) industrial cluster representatives which included government officials and captains of five (5) industrial clusters. The literature in chapter 2 and 3 played a significant role in providing guidance in term of the research study. Then chapter 4 provided the much needed chronological processes and procedures of collecting quality data hence the presentation of the qualitative data below.

5.9. Qualitative Analysis procedure

As indicated in chapter 4, the study used the mixed method. The NVIVO 11 and Inductive Thematic analysis were employed to conduct the qualitative analysis process. There were more than forty-seven nodes identified. These nodes emanated from themes that were established from the literature review and within the guidelines of the research objectives. It further narrates how themes are linked to the five research objectives which are also linked with the quantitative factors analysis. Themes are established or drawn from an arrangement of data configuration appreciation from qualitative interviews. The following were the research objectives:

- a. To establish the relevance of Industrial clustering in industrialising the KZN province.
- b. To explore the relationship between Industrial clustering and organisational competitiveness.
- c. To establish the reasons for the downfall of the industrial clusters.
- d. To develop an industrial clustering framework that will assist EDTEA in supporting local clusters.

There were five (5) themes and twenty (26) categories deducted from themes. Table 5.7 below presents themes, categories, and nodes:

Table 5.7: Themes, Categories, and Nodes

THEMES	CATEGORIES	NODES
Government Intervention and provision of support measures	Establish Industrial Clusters	Develop and amend current policies
	Funding Industrial Clusters by government	Avoid political interference
	Interventions employed by government in supporting industrial clusters	Provision of conducive environment
	Funding mechanisms available to support industrial clusters	Provide funding on a sliding scale to avoid dependency (Incentive scheme)
	The role of government in ensuring future sustainability and growth of the industrial clusters	To act as a facilitator
	Institutional Framework by government in supporting industrial	Define Institutional framework and assign champions (Officials)

Organisational Competitiveness	The relationship between Industrial Clustering and Organisational Competitiveness	Just –In- Time
	The critical success factors that make the industrial clusters to grow or succeed	Continuous Improvement
	The benefits of joining the Industrial Clusters	Localization
	The importance of industries to working closely with industrial cluster within the value chain	Technology Improvement/Advanced technologies/ lead times
	The available opportunities for new entrants (SME) to enter into the Industrial clusters (mainstream economy within the value chain)	Production efficiencies (quality vs. quantity)
	Industrial clustering reduces transport cost	Skill development and training
	The strategies that should be employed in order to increase production efficiencies within the cluster	Information Sharing
	Spatial location could improve productivity	Improved Infrastructure
	Employment of Advanced Technologies by Industrial Clusters	Design capacity
Industrialization	The relevance of Industrial clustering in Industrialising the KZN Province	Funding mechanism
	The importance of industries to working closely with industrial cluster within the value chain	Fair competition
	Infrastructure being instrumental to maximise the economies of scale	Private Public Partnership
	Strategies that are in place in order to increase local content	Buy local
		Local and international market
		Importation of international technical know-how
		Increase Local Content
		Infrastructure development
	Barriers to entry	

Cluster Governance and Accountability	The role of Private Sector in Developing Industrial clusters	Institutional framework
	The role played by each participant within the cluster	Develop bankable business plans
	Business Sustainability	Leadership
		Ownership
		Managing Working relations
		Government compliance (MOAs & SLA)
		Monitoring and evaluation (Reporting)
Challenges and difficulties faced by industrial clusters	The causes and challenges that lead to industrial clustering to fail	Misalignment with government policies as well as private sector
	The experiences encountered by industrial clusters in accessing government support	Poor benchmarking
	The challenges or bottlenecks faced by companies with the industry value chain	Unfair competition
	Issues of shortage of requisite skills	Poor remuneration and turnover
		Poor leadership
		Inconsistent support
		Lack of platforms to raise issues
		Lack of buy-in
		Monopolized markets
		Barriers to entry
		Limited resources (premature withdrawal by government)
		Bureaucracy

The literature review and theoretical framework identified five (5) themes from the study.

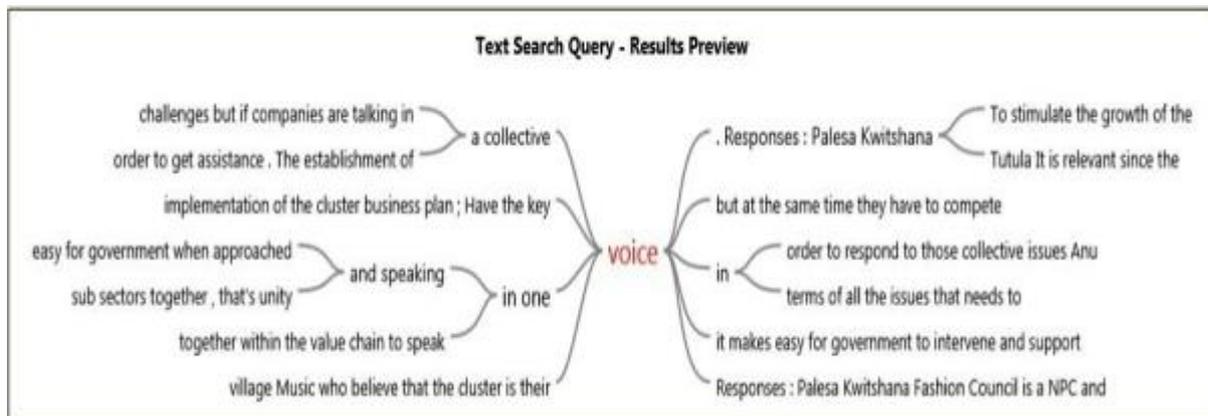
- a. Government intervention and Provision of Support Measures
- b. Organisational Competitiveness
- c. Industrialization
- d. Cluster governance and Accountability
- e. Difficulties and Challenges faced by industrial clusters

5.11.1. Government intervention and provision of Support Measures

a. The reasons for government to establish industrial clusters

Table 5.8 indicates that there were a number of registered views from the participants concerning government support and intervention. The participants unanimously expressed their concerns that government must play a significant role in assisting the industrial clusters to be established.

Figure 5.5: NVIVO Technical Analysis and views of the Participants regarding government



“Clusters allow the industries to organise or formalise themselves. It makes life easy for the government when approached and speaking in one voice,” Participant 5.

There were precautions that government should not attempt to initiate the industrial clusters but it should develop policies and strategies in order to create a conducive environment for the industries to grow. It was also mentioned that there should be no political interference in the operations of industrial clusters.

This was viewed as pushing the political mandate hence the industry should be independent and be competitive.

“It has to be a partnership and collaboration. The government should be a facilitator in the space. The government should not run the cluster but to create a platform in order to develop and benefit the economy through greater partnership, breaking the barriers of conservatism and Industry buy-in and allow the industry to grow at a better pace,”
Participant 10.

The summation by participant 10 was evident that government has a significant role to play in assisting industrial clusters to be established but most participant unanimously agreed that government should not run industrial clusters.

i. The How to establish clusters

The study also revealed on how industrial clusters should be established. This emanates from the qualitative study (structured interviews) where project managers and captains of the industries unanimously provided the following guidelines in terms of establishing industrial clusters:

- ✓ Firstly the cluster has to conduct a feasibility studies followed by draw up a business plans;
- ✓ The business plans will help to define the institutional framework and guide who to assign as champions to drive the process and intended plan;
- ✓ This involves the creation of a strategy, and defining the rules and regulations of operating. The strategy will detail aspects such as:
 - a. Requisite skills;
 - b. R&D and innovation;
 - c. Industry expansion;
 - d. Flagship projects;
 - e. Potential collaborators;
 - f. Sources of funding;

Create and amend pertinent policies and responsive policies that will deal with the issue of corruption and mismanagement of funds;

- ✓ Raise awareness and secure buy-in. This will facilitate the development/establishment of clusters, which will help to support and develop industry competitiveness;
- ✓ Development and conclusion of Service Level Agreements and Memorandum of Agreements and therefore this will ensure accountability and monitoring and evaluation of the objectives and programmes to be implemented;
- ✓ Get investors interested by incentivising them e.g. trading at reduced cost, tax rebates, grant, reducing trade barriers etc;
- ✓ If collaborations across different industries are established – industrial cluster can tap into those working relations using their strengths and competencies and leverage such for training and up-skilling;
- ✓ In order to facilitate independence, there is a need to institute a system at a sliding scale (financial assistance), thereafter provide information relating to other available sources and means of funding in order to sustain their industrial clusters;
- ✓ By backing this incentive - the government provides credibility and confidence to the industry and investors; and
- ✓ Clusters need to be set-up not only as public entities but more specifically as section 21 or non-profit companies (NPC's) as they are said to be more compliant, flexible and possess strong management.

ii. Need for industrial clusters

- ✓ To pool together resources to leverage strengths;
- ✓ To collaborate and form partnerships in order to all work together thereby enabling trade to thrive;
- ✓ To allow for the expression of different perspectives but all working towards a common goal;
- ✓ To create a sense of unity, structure, and a unified voice that has more impetus on growing the economy;

- ✓ By facilitating partnerships with the private sector industrial clusters provide a collective voice, and can be better positioned to respond to collective issues, being more recognised and prompting better response to address the current issues which, attempting to do so alone, undermines government objectives to assist businesses and create jobs;
- ✓ To create a united front and increased impetus makes more "noise" - and puts the industry into a new, and more noticeable public space and therefore encourages Public Private Partnerships (working relations with other industries);
- ✓ To increased exposure and allow for growth and development of the industry;
- ✓ Industrial clusters are more in touch with the current issues and can therefore come up with more responsive solutions, and identify areas in need of capital injection;
- ✓ In addition - this is important to inform the consequent decisions and way forward in terms of developing implementation plan;
- ✓ To fulfil government's mandate;
- ✓ To involve government in the setup and facilitation and to deal with the administrative burden, remove bottlenecks, create an environment and facilitate the thriving industry;
- ✓ To orientate and position government in ways to fulfil its own mandate and create an enabling environment, define rules and regulations governing the industry and being consistent with its own mandate;
- ✓ Once industrial cluster are funded, supported and stimulated the industry through funding therefore the established industrial clusters provide training and education of people, stimulating economy, thus creating an environment conducive to "fair" competition and independence of monopolies. This can foster growth and sustainability - thus also helping to achieve its mandate;
- ✓ In addition, if barriers to entry and trade are deregulated it will further create an enabling and conducive environment;
- ✓ Before industries could foster independence, it's imperative that they forge working relation with related industries in establishing clusters.

Thereafter, it is important to monitor and evaluate industrial cluster's efficacy in order to ensure continuity, sustainability and collaboration;

- ✓ When there is a collaboration, and a collective voice, it makes it easy for government to identify areas for intervention, support, stimulate industry and increased focus;
- ✓ Government should assist in combating working in fragmented silos which are amenable to monopolies by larger companies and players in the field;
- ✓ Therefore through collaboration, unification - it makes competition fairer by supporting emerging firms and allowing them an opportunity to become stronger and more independent thus markets become more open and thriving as competition is healthier;
- ✓ In addition - it increases competition;
- ✓ Through participation and involvement in clusters there is an increase in the amount of information and insight into industry related concerns, issues and challenges as more information is shared;
- ✓ In addition, industrial clusters have access to various markets, and helps to assist in identifying further markets; and
- ✓ Because resources are pooled and shared by industrial clusters, there could be improved supply chain processes and invariable value chain could also reduce overheads and provide products more cheaply.

Figure 5.6: Word tree and the role of government in supporting the industrial clusters



b. The reasons for government to fund industrial clusters

Table 5.9 indicates that participants are in agreement that the government should set aside funding in order to assist industrial clusters to be established.

“It is a platform for collaboration and government has to provide resources for the industry. The government has to gain confidence from the industry. The government provides sunk cost in other ways government provide funding for certain activities of which the industry would not have funded. Businesses have to compete locally and globally and need to collaborate in order to add value. It is a platform for collaboration and government has to provide resources for the industry. The government has to gain confidence from the industry. The government provides sunk cost in other ways government provide funding for certain activities of which the industry would not have funded. Businesses have to compete locally and globally and need to collaborate in order to add value,” Participant 8.

Most participants are concerned with industries working in silos. Therefore there is a need for government to level the playing fields for industries in order to enhance the competitiveness of the industries both locally and internationally.

c. The necessary interventions that should be employed by government in supporting industrial clusters

Table 5.11 indicates that participants are of the view that the government should lead the way by developing industry growth strategies and policies that are destined to assist the industry to find its feet on the ground. There was a notion that within government there has to be a dedicated unit that will focus solely on the development and support of the industrial clusters. Participant 10 summed this category as follows:

“Government has come up with the cluster fund, industry support which the clusters are able to tap into, the Customised Sector Programme (CSP) funding, however, it is only the matured cluster that will be able to take advantage of those support measure. At the provincial level, there are problems of the duplication of programmes such as Industrial hub and the Industrial Clusters. Therefore clustering requires consistent support and funding.

This is evident in the old clusters where they have been able to bridge a place where competition is at the external level (Not an internal competition) for example, export markets and international competition. Therefore consistency is the key that has kept the industry at the very low levels of performance which has led to the large companies monopolising markets because of the lack of consistent support. The comparison of clothing and textile cluster and the furniture industry is the labour intensity and conservatism of those individual companies or industries in the furniture industry that are monopolised the markets. There are a great difference and the growth path within the textile and clothing cluster than in the furniture cluster because of the vertical clustering from JD Group to Steinhoff there is a huge window of opportunity for growth in making inroads into the international markets but this is only for single firms. But those potentials are only accrued to single firms more special in the furniture industry and the rest of the industry is still struggling. There is a design and furniture manufacturing cluster located in a small city in Sweden called Tibro. It has been funded by the government of Sweden since 1972, this is a long-term vision and support that will be an easy way the South African government can sustain the clusters” Participant 10.

d. Funding mechanisms available to support industrial clusters

Table 5.12 depicts that most of the participant agrees that there are funding mechanisms available to support the industrial clusters. The government alone cannot be the only source of capital. Therefore industrial clusters have to work tirelessly in leveraging additional resources from other donor agencies. In this instance most participants made mention of the following institutions that have resources in supporting the clusters:

- *Companies for Intellectual Property Commission (CIPC);*
- *National Arts Council (NAC);*
- *United Nations Education, Scientific, Cultural Organisation (UNESCO);*
- *International Federation of Pornographic Industry (IFPI);*
- *The Department of Trade and Industry (DTI);*
- *The Department of Economic Development Tourism and Environmental Affairs (EDTEA);*
- *Industrial Development Corporation (IDC);*

- *Local Municipalities;*
- *Growth Fund;*
- *Sector Education Training Authorities (SETA);*
- *Gijima Funding, and*
- *Lotteries Commission Trust Fund.*

In addition to the above, some participants proposed that government should provide incentive schemes such as rebates in order to attract more investments into the clustering set-up.

e. The role of government in ensuring future sustainability and growth of the industrial clusters

Table 5.13 indicates that participants were optimistic that if the government could set up structures that will ensure monitoring and evaluation of the clusters, there will be minimal challenges faced by industrial clusters and there will be growth and prosperity. The following is the summation by Participant 8 in respect of the role of government:

- i. Facilitator*
- ii. Funder*
- iii. Influence and Inform*
- iv. Align*
- v. Industry Support*
- vi. Monitor*
- vii. Forge linkages*
- viii. Create enabling environment*
- ix. Tripartite role*

f. The adopted Institutional Framework by government in supporting industrial clusters

Table 5.14 depicts that participants had mixed emotions regarding the institutional framework that needs to be adopted by the government in supporting the industrial clusters.

The common proposal from participants was that there should be a formalised and approved structure such as Non-Profit Company (formerly known as Section 21) that will serve as a uniform for all clusters. This will enable industrial clusters to follow proper reporting format and to understand better the objectives of government. Participant 1 made the following proposal regarding the institutional framework that has to be adopted by government:

“Government should create permanent structures which could meet once in a while that will cut across businesses, labour and civil society. For example; Auto Supplier Park, companies along the value chain working together in feeding TOYOTA. In order for this partnership to be sustainable, there has to be a close working relationship between partners in order for the government to monitor and intervene where there are challenges and be able to get feedback which can be evaluated going forward,” Participant 1.

g. The experiences encountered by industrial clusters in accessing government support

Table 5.16 indicates that most participants are finding a difficulty in following government due processes. The common examples cited by most participants were those including the filling of forms, supply chain management processes and compliance and referred them as most daunting tasks faced by industrial clusters and the public in general. The following are views by participant 4:

“Bureaucracy and red tape; impatience of cluster members to understand government processes; failing to understand that these are government funds and capacity to fill in forms, capacity to develop bankable business plans,” Participant 4.

5.11.2. Organisational Competitiveness

a. The relationship between Industrial Clustering and Organisational Competitiveness

Table 5.18 depicts that most of the participants are in agreement that there has to be a close relationship between industrial clusters and organisational competitiveness in order for the industry to grow and compete globally.

The highlight was the issue of collaboration, networking and sharing information within the industry value chain in order to realize the potential of each sector. The following were the views of the participants regarding industrial clustering and organisational competitiveness:

“Misalignment, the cluster needs to find relevance, the cluster needs to speak to the conglomerates of retail, if you want to stimulate the economy the Woolworths, Truworths, Mr Price Group do not have to source or buy overseas, but buy local. For example, the cluster pushback is the lack of the economies of scale, lack of capacity, poor quality, and high prices,” Participant 6.

“Get a better understanding of your competitors along the value chain in order to improve your business. Whereas as a collective you can influence the market for example, Porters Diamond indicates that industries should mobilise as a collective in order to maximise the economies of scale,” Participant 8.

b. The critical success factors that make the industrial clusters to grow or succeed

Table 5.19 indicates that there is a unanimous agreement amongst the participants that critical success factors are a basket of goods that make a cluster to be successful. What came out clearly was the issue of leadership, good working relationship, networking and understanding each member’s strengths and weakness. Participant 1 made a good summation of the critical success factors of industrial clusters:

- i. Conducive environment;*
- ii. Harnessing of economies of scale;*
- iii. Good value chain;*
- iv. Maximization of profits;*
- v. Access to supply customers on time and at competitive prices this will lead to efficient lead times;*
- vi. Application of just in time, (where there are no storage facilities);*
- vii. Good infrastructure;*
- viii. Good Transport and logistics system;*
- ix. Good support mechanism – Efficient broadband – for example, good communication in order to operate effectively and efficiently;*

- x. *Good competitive advantage;*
- xi. *Conducive environment;*
- xii. *Good value chain;*
- xiii. *Maximization of profits;*
- xiv. *Access to supply customers on time and at competitive prices, this will lead to efficient lead time;*
- xv. *Application of just in time, (where there are no storage facilities);*
- xvi. *Good infrastructure;*
- xvii. *Good transport and logistics system;*
- xviii. *Good support mechanism – Efficient broadband – for example, good communication in order to operate effectively and efficiently, and*
- xix. *Good competitive advantage.*

c. The available opportunities for new entrants (SME) to enter into the Industrial clusters (mainstream economy within the value chain)

Table 5.25 reveals that the participants have had mixed experiences in the issues of seeking the available business opportunities in a bid to enter into the mainstream economy. Participants felt that big corporates tend to dictate terms more especially to small or emerging businesses on how they should operate. The slice of a market share in most industries is relatively small hence the reaction of big corporates in squeezing out the new entrants.

“The classical example is Michael Porter. The predicament is the barriers to entry if the artist is new (never produced an album) and wants to enter the market that becomes a challenge. This requires robust marketing, for example, Payola. People have to place a brown envelop to music compilers for the artists to be on a playlist. If not acting on that their music won’t be on rotation or air played (on the radio stations). The multinationals ensure that if you don’t coexist with them or sign deals with them your music won’t hit shelves. For example, Mayonie Production and Afrotainment have signed distribution agreements with Warner Brothers so that they will be able to get into the value chain and their music will be found on the shelves,” Participant 1.

The following is the summary by Participant 7 which indicates the opportunities that are available for the new entrants:

- I. *To form strategic partnership and relationship;*

- II. *To have access to the research work and to be able to cease the opportunities;*
- III. *To gain knowledge and collaborate with other related industries, and*
- IV. *To gain or share human resources and knowledge of local and international opportunities.*

d. Industrial clustering reduces transport cost

Table 5.26 indicates that the participants believe that the transport has a huge role to play in all industry clusters. However, the eminent issue is the transportation costs. Transport cost is believed to be a silent killer in propelling the business aspirations forward. Industry clusters unanimously agreed that if the multimodal system is within reach from the port to the rail system and to the road within the same district then efficient transport system could contribute to reducing the costs of doing business. The following is the summary by participant 10:

It is a concept that works easily if companies are closely located for example, the Tibro Furniture and Design cluster as well as the automotive cluster which brings industries together, but with the virtual cluster, you have to develop the systems that will bring transport efficiencies closer. It becomes very difficult if companies are widely dispersed unless using the existing freight system.

- I. *The transport and logistics are generic benefits of the cluster;*
- II. *Sharing transport costs with other cluster members, and*
- III. *Negotiate the reduced transport costs and use the savings to other business needs.*

e. The strategies that should be employed in order to increase production efficiencies within the cluster

Table 5.27 indicates that participant believes that there are various strategies in place for respective industry clusters. What came strongly are the issues of continuous improvement, working as a collective, training and capacity building.

The following is the summary of strategies identified by participant 7:

- I. *Continuous improvement (KAIZEN) across various facets of the cluster;*
- II. *Setting high targets in order to maximise profits;*

- III. *Benchmarking against international best practices;*
- IV. *Continuous assessment of the cluster and the board itself in order to strengthen the capacity of the cluster, and*
- V. *Leveraging the country's bilateral agreements in order to maximise the opportunities such as exchange programmes or enhancing skill development.*

f. Spatial location could improve productivity

Table 5.28 indicates that special location is crucial in maximising the economies of scale. Most participants believe that the close proximity of the industries within the industry cluster complex could cut costs of doing business. This emanates from the fact that industries could share the latest technology, infrastructure, administration expenses, lead time and some overheads.

“It could improve business only if the business is closer to the raw material since it will reduce transport costs and overheads; for example, the logistic business and sawmills should be located near to forests in order to reduce costs and maximise the economies of scale.” Participant 9.

g. Employment of Advanced Technologies by Industrial Clusters

Table 5.32 indicates that technology is key to ensuring industrialisation and to keep up with the global markets.

“The globe has gone digital so either you adapt or rejected by the system. One of the imperatives that people vehemently denies is that technology is there to stay and make things better. For example, KZN has a State of the Art facility, the recording studio. It has been only learned recently that the software has to be upgraded each and every year because technology changes every year. Currently, there are digital studios that are using advanced technologies. In keeping with these changes, the KZN institution had to ensure that a new digital desk was procured in a bid to increase productivity in terms of producing good quality products and stay afloat within the industry sector,” Participant 1.

The following are the views of participant 9:

- I. *To be able to produce large quantities in the short space of time;*
- II. *Saving on labour costs;*

- III. *Produce high-quality products, and*
- IV. *Meeting and complying with the international standards such as SABS.*

h. The benefits of joining the Industrial Clusters

Table 5.21 depicts that the industry has a common understanding about the benefits that are accrued to the members of the cluster. The individual companies join industrial clusters for various reasons and issues that impact the growth and development of their businesses. The following are the common factors that were alluded by clusters' members:

- I. *Opportunities;*
- II. *Exposure;*
- III. *Industry linkages and support;*
- IV. *Affiliation;*
- V. *Networking;*
- VI. *Information Sharing;*
- VII. *Engage with your counterparts be it on your geographic location or sectorial base*
- VIII. *Get a platform to make a difference in your sector/cluster;*
- IX. *Solution-driven (work with government);*
- X. *Share best practices especially research related to fashion trends; new technology employed;*
- XI. *Share resources and maximise the economies of scale and profits;*
- XII. *The benefits will relate to skills development;*
- XIII. *Interact with industry players because of the interconnectedness of the industries along the value chain;*
- XIV. *Able to access local and international markets, and*
- XV. *Buying and Sharing of raw material at the reasonable costs that will have a direct bearing in growing the industry businesses forward.*

5.11.3. Industrialization

a. The relevance of Industrial clustering in Industrialising the KZN Province

Table 5.17 depicts that most of the participants agree that industrial clusters have a significant role to play in industrialising the KZN province.

It was mentioned that most of the clusters have made inroads in turning around their respective industries through the intervention by the industrial clustering model which was introduced by the government. The following are the views of the participants:

“The adoption of Industrial Policy Action Plan and establishment of the black industrialist scheme by government encouraged people to establish businesses or industries in a bid to create employment produce at a mass scale and to increase productivity within the region. This encouraged businesses to leverage on those opportunities that will have significant contribution to the GDP of the province,” Participant 1.

“For example, the eThekweni Maritime Cluster is able to pull foreign investors to participate in the industrialisation of the province. Through the Operation PAKISA, countries such as Panama Island visited the province in a bid to invest and get more information about the oceans economy,” Participant 2.

“The success story of the textile and clothing cluster; the sector lost a number of jobs around the 2008-2012; but the employment level has started to increase by 25% in the last three years due to the government support measures and mechanism for growth. The cluster has been at liberty in receiving government support in order to deal with the issues of world-class manufacturing; production efficiencies; minimising the gap between the manufacturers and designers. This led to the job creation and for the industry that had shed the jobs, this tells a good story of how industrial clustering has industrialised the KZN province,” Participant 10.

It is evident that the government intervention in making a critical decision regarding the policy imperatives is at the centre stage in ensuring that all sectors of society benefit from the initiated programmes. The Black Industrialist and Operation Pakisa are priority programmes that are destined to industrialise the country and thereby creating much-needed jobs.

b. Infrastructure being instrumental to maximise the economies of scale

Table 5.29 depicts that participants unanimously agree that infrastructure has a huge role to play in the growth and development of the industrial clusters. The sharing of infrastructure reduces costs of doing business.

The following are the views by Participant 4:

- I. Good and efficient infrastructure makes production easy and more goods are produced;*
- II. Reduced operating costs such as marketing (Advertising as a collective and digital advertising) and distribution (trading online);*
- III. Cluster could place advertisements at its offices or even on the cluster vehicles, and*
- IV. Improved telecom in order to communicate systems with local and international clients.*

The music industry cluster participants felt strongly that infrastructure works favourably for the music industry as one recording studio could serve masses of the emerging and well-established musicians. The following are the views of participant 5:

- I. Infrastructure provides a comparative advantage more especially if the music recording studio is close to its members; and*
- II. Infrastructure provides increased opportunities in terms of costs sharing, reduced overheads, and rental costs.*

c. Strategies that are in place in order to increase local content

Table 5.30 depicts that most participants unanimously agreed that the buy local strategy should be endorsed by all industries in order to ensure that local content is increased.

- I. To buy local;*
- II. To provide training to local people for increased local content;*
- III. To embark on the increase of design capacity;*
- IV. Continuous improvement, and*
- V. To provide incentives or another support measure such as reducing or subsidizing electricity costs and rates.*

The local industries are encouraged to increase their growth potential when the government and relevant authorities make the environment conducive for local industries to thrive.

“The recent amendments to the Intellectual Property Right Law which will give local producers and actors more opportunities related to ownership and licensing and also to increase local content as they will benefit in terms of royalties and airplay (80/20 and 90/10),” Participant 5.

d. The importance of industries to working closely within the industry value chain

Table 5.23 indicates that participants are in agreement that there is a need for industries to work together in a bid to maximise the economies of scale. The following is a summary by Participant 8:

- I. Close Knit network;*
- II. Commination;*
- III. Planning;*
- IV. Efficiencies;*
- V. Just in Time*
- VI. Delivery of goods at the particular time; quantity and location; quality, and*
- VII. Requires an understanding of the environment; communication; certain culture within the value chain.*

The industry believes that working closely within the value chain enhances the working relations between businesses, deal as a collective with the issues of competitiveness such as innovation, bulk buying, produce high-quality products, production efficiencies and more.

5.11.4. Cluster governance and Accountability

a. The ways of establishing Industrial Clusters

Table 5.10 depicts that participants have mixed emotions in terms of how industrial clusters should be established. The key concepts were to set up collaborations between industry and government, develop strong institutional arrangement and develop a bankable business plan.

Below is the summation by Participant 9 regarding the processes that need to be followed when establishing industrial clusters?

“Firstly government should target key contributors of the particular sector and present the intention of the interest and develop the business plan that will serve as a guide in terms of the critical issues that the government needs to respond on and once the business plan has been concluded then start to look at the issues of the institutional framework such as the S21 (CEO; CFO and the staff); they have a board that will develop and drive the very same business plan. People should be visionary and fundraise for a cluster since funding has to come from all angles be it private sector as well as from donor agencies,” Participant 9.

The participants noted that government should not initiate a cluster but the industry should present a business case to government that will serve as a roadmap for developing a particular industry.

b. The Role played by each Participant within the cluster

Table 5.22 indicates that the participants have different and significant roles they are playing within their respective clusters. The sample was made up of both government officials and industry cluster captains who are leaders of the clusters. The views expressed by participants are phenomenal as they portray a picture of government and industry regarding their roles.

“Work as a General Manager for the Cluster, Head Operations, and Projects, Oversee Budgets, Report to the Board and ultimately to the cluster members,” Participant 5.

The following was the summary by Participant 8:

- I. Dual role;*
- II. Leading the setting up of the cluster;*
- III. Stakeholder engagement;*
- IV. Understanding of the value chain and its dynamics;*
- V. Facilitator and Implementer (Playing a referee and the player);*
- VI. Understanding the corporate governance; understating the financial matters; policies and processes, and*
- VII. Coordinate programmes; harvest best practices and coming back and implement.*

c. Business Sustainability

Table 5.33 depicts that there are an array of issues that makes industrial clusters to sustain. Most participants echoed the same sentiments. They found it very hard to keep up with the competitive environment. The issues to technology, raw material, overheads, and quality versus quantity and lead times were the most critical elements that make the business to sustain.

- I. Provision of Mentorship;*
- II. Thorough understanding of the industry;*
- III. Having the relevant strategic partnerships;*
- IV. Having relevant resources, i.e. Human and Financial resources;*
- V. Efficient Management (Whether financial or human resources);*
- VI. Being able to deliver high quality and competitive pricing;*
- VII. Good Customer Relations;*
- VIII. Training of staff to deliver quality service;*
- IX. Being able to plan accordingly, for example, delivering on time;*
- X. Reliable and aggregate scheduling;*
- XI. Knowing your target market;*
- XII. Being strategically located;*
- XIII. Reduce transport cost to benefit customers and maximise the economies of scale, and*
- XIV. Continuous improvement and innovation.*

d. Factor that are imperative for the success of industrial clusters

The following are factors that are imperative for the success of industrial clusters: these include:

- ✓ Collaborations between key players which requires active participation, commitment, communication amongst all parties (including government, business and customers);
- ✓ A conducive and an enabling environment (user friendly policies and incentives);
- ✓ Achieving economies of scales, lead times, kaizen etc.;
- ✓ Availability of consistent funding;
- ✓ Proper infrastructure, resources and support measures;

- ✓ Good working relations amongst role players along the value chain;
- ✓ Incentivised participation and attraction to the cluster location;
- ✓ Good leadership, good strategies and policies, and leading the way for industry;
- ✓ Identifying opportunities and enter into agreements with strategic partners in a bid to participate in the mainstream economy;
- ✓ Development of a bankable business plan, with proper implementation plan. It this instance every members understand their roles and responsibilities;
- ✓ User friendly supply chain policies;
- ✓ Understanding of government policies and strategies in order to align the business plan and implementation plan with specific programmes that will benefit cluster members;
- ✓ Ensure compliance with authorities such as Department of Labour, South African Revenue Services, Central Supplier Database, Skills Levy, Unemployment Insurance Fund etc.;

5.11.5. Difficulties and Challenges faced by Industrial Clusters

a. The causes and challenges that lead to industrial clustering to fail

Table 4.15 indicates that there are inconsistencies regarding funding by various donor agencies including government. Most participants pointed the figure at the government for not providing consistent support. Interesting enough some participant was of the view that industrial cluster solely depends on government funding hence there is no sustainability plan. The following is the summation by Participant 8 regarding dependency syndrome by industrial clusters:

“Government hold on to clusters giving them unlimited support; Government become complacent (No start and end of funding); Government support becomes perpetual (For example, Boat building support programme where the eThekweni Municipality was supposed to provide the support for the limited time but ended up holding on); Government is supposed to norm; form; storm and leave the project; Cluster receiving the support at a diminishing return; Limited resources and government framework (strategic Choice) there was no policy for the industrial cluster hence not the policy imperative and There is no government obligation to support clusters,” Participant 8.

b. The Challenges or bottleneck faced by companies with the industry value chain

Table 5.24 depicts that most participants unanimously agreed that there are indescribable challenges within the industry value chain and they are different sector by sector. Some industries are operating in silos to cut out the emerging industries.

“In the music industry, the bottleneck is in the distribution if you don’t have a sound relationship with the multinationals that are currently dominating the music industry sector, then your product will not reach the shelves and will end up sitting with the pile of stock since there are barriers to enter the value chain. There is also backward and vertical market integration within the space of the music industry which is dominated by the big multinationals such as Vendi or Warner Brothers who own the entire value chain, for example, recording studios, retail shops, distribution, and retail. If you don’t want to sign with them or be in good books with them, then you will face a challenge of not making it into the market as they will squeeze you out of the market. This could attest that there is power in unit,” Participant 1.

“Fashion designers are neglected and isolated within the fashion value chain. The whole value chain is fragmented and poses a challenge to fashion designers to get good quality fabric and to get it on time,” Participant 3.

“Value chain in the Maritime is not linear; Maritime is oligopoly; it becomes a challenge to communicate with each other than the car manufacturing where auto suppliers are working towards supplying one car manufacturers. There are many players within the maritime value chain,” Participant 8.

c. Issues of shortage of requisite skills Issues of shortage of requisite skills

Table 5.31 depicts that most participants believe that relevant training and capacity building programmes should be in place to have a pool of requiring skills. The industry cluster will benefit in the pool of available skills, and this will ensure the continuous production with limited interruptions, production of high-quality products and the enhanced industry competitiveness.

The following are the views of the most participants:

- I. Gather relevant information regarding the requisite skills development;*
- II. Private sector to play a critical role in ensuring industry support;*
- III. Upskilling and technical know-how;*
- IV. Provide the Recognition of Prior Learning;*
- V. Provide mentorship in case of the shortage of skills;*
- VI. Ensure that at the tertiary level the curriculum should talk to the industry needs, and*
- VII. Provide funding for those scarce skills.*

In essence, the above issues are crucial in enhancing the competitiveness of each business. The industries are therefore compelled by the situation to join forces with other industries to grow, sustain and maximise the economies of scale.

d. Potential difficulties

Below are views of industrial clusters that participated in the study who come out strongly regarding the challenges and difficulties faced by industrial clusters more especially those emerging industries:

- ✓ Inconsistent support - which has other implications like credibility and sustainability;
- ✓ Even though funding has been provided to support clusters - Preferential access to funding whereby only mature clusters can access funding (undermines the purpose of creating independence);
- ✓ There is a long administrative burden in trying to access government funds;
- ✓ There is a notion that funds are withdrawn prematurely - causing flourishing clusters to collapse;
- ✓ Overlapping of initiatives - which means that in order to achieve set objectives of fostering independence - the clusters will need continued support and funding
- ✓ Inconsistent support - results in larger companies monopolising the market, meaning that competition is not fair and equal. This further undermines clusters initiatives to achieve government mandate.

- ✓ Cluster members felt that government policies are not user friendly hence they are viewed to hinder good intentions for cluster development;
- ✓ Lack of access to funding. As a result staff are being paid less - poor remuneration often leads to staff turnover and more financial implications for companies;
- ✓ Over-reliance on the government will foster dependency, and hamper the objective of independence. Especially when there is no ending to funding - and there is unwavering and unending financial support;
- ✓ Poor corporate governance leads to poor leadership and incompetencies;
- ✓ Poor monitoring of clusters - this means poor performing clusters aren't detected early and become a liability - no return on the money invested;
- ✓ Corruption - mismanagement of funds, conflict of interest, nepotism and favouritism etc;
- ✓ Poor meeting attendance - too many committees, no incentives for attendance therefore members view these meeting as non-compulsory. This tend to create biasness and poor attendance by members;
- ✓ Challenges with policies and strategies that are not implemented or fail to attract funding;
- ✓ No policies and legislation governing performance of industrial clusters or obligating parties to act nor obligating them to support clusters;
- ✓ Misalignment in policies and strategies;
- ✓ Poor compliance and understanding of corporate governance;
- ✓ Little value yield by cluster especially those that are wholly depending on government funding;
- ✓ Potential irrelevant and outdated mandate - need to re-think, and update accordingly. Mandate has to be aligned with the changes especially those international trends that are commanding attention. For example, fourth industrial revolution;
- ✓ Poor institutional framework which is often not adhered to;
- ✓ Challenges or bottlenecks within the value chain pose a threat for those industries in their respective clusters to thrive;

- ✓ Markets are dominated by large multinationals who largely occupy the space and unless you sign with them and align, there is no guarantees in sharing a slice because they will devise strategies to squeeze out of market (monopolising the markets);
- ✓ Opportunities tend to be compromised if you have a poor working relationship with the organisations monopolising the industry;
- ✓ There are often hold-ups in port - causing delays and therefore unable to meet lead times and economies of scale; and
- ✓ Fragmented and isolated industries - which means they don't have a unified voice, and impetus, tend to not succeed as the conglomerate make sure to monopolise the markets even raw materials.

5.12. **Conclusion**

It is evident that most participants have shared same sentiments regarding the issues that are pertinent to their respective industrial clusters. The presentation of the findings paves a way of dissecting the research objectives for both quantitative and qualitative research thoroughly. The next chapter will vigorously interrogate the scholarly views and findings from participants in a bid find a solution to the research questions.

Chapter Six

Discussion of Results

6. Introduction

The previous chapter presented the findings in both qualitative and quantitative research methods. The data presented was based on the four research objectives and questions of the study. This chapter will seek to dovetail the major findings of the study. The study will further interrogate the similarities, differences identified and justified accordingly. This chapter will combine discussions of quantitative and qualitative using triangulation mixed research method. There were ten (10) respondents used for qualitative design, and more than one hundred and fifty respondents (150) returned their questionnaires. The researcher analysed both the collected data simultaneously in a bid to achieve optimum results. The researcher discovered that triangulation research design method was less time consuming than other methods. The results proved that the qualitative and quantitative research method designs were aligned and the reasons were due to the selected population, understanding of the subject and aligned questions in both the structured questions and research instrument (Strydom 2011).

6.1. Research Objective One: The relevance of Industrial clustering in industrialising the KZN province

The study interrogated at the mixed method regarding finding a solution to the research problem. In the quantitative method, there were four (4) exploratory factors (Q5, Q6, Q7, & Q8) that were grouped under the heading: Government initiative in setting up industrial clusters including facilitation. The qualitative method also came up with five themes which are interlinked with the quantitative method. Both quantitative and qualitative are suggesting that government should play a facilitation role and provide support measures for the establishment of the industrial clusters.

6.1.1. Government Initiative in Setting up Clusters including facilitation

The developing countries should take caution in developing industrial clusters (Kaplinsky 2000, Morris and Barnes 2007).

There was a strong argument that government could play a significant role in facilitating and creating the enabling environment in ensuring that the market failure is dealt with and the obstacles are removed for the industrial clusters to thrive. Morris and Barnes (2007) argued vehemently that the government should not attempt to create or initiate the industrial clusters or networks, but the industry and market should drive the initiative. Industries in the developing countries find it difficult to start industrial clusters without government support.

The initiation process warrants the policy directive and formulation. This serves as a strong foundation for industries to address their teething problems such as training and development, access to funding clusters, opening up of international markets and technological advancement (Porter 1998, Morris and Barnes 2007). Herbert Schmitz (1999) argued that the government policies in the past were protecting the industries from international competition thereby increasing Import Substitution Industrialisation (ISI) which was substituted by Neo-Liberal Washington Consensus from the 1980s to 1990s (Schmitz and Nadvi 1999). It was also mentioned that there should be no political interference in the operations of industrial clusters. This was viewed as pushing the political mandate hence the industry should be independent and competitive (Barnes 2003).

“It has to be a partnership and collaboration. The government should be a facilitator in the space. The government should not run the cluster but to create a platform to develop and benefit the economy through greater partnership, breaking the barriers of conservatism and Industry buy-in and allow the industry to grow at a better pace,” (Participant 10).

The study brought a new dimension and chapter in supporting the industrial clusters as there has been a void in terms of the policy directives. The previous interference by government was referred to as an induced approach by many scholars where the industry clusters become spectators in the formation and establishment of the industry clusters. In this instance should play a facilitation role and policy maker and allow the industry to take initiative of collaborating together for a common goal.

6.1.2. **The reasons for government to support industrial clusters**

The study revealed that government should set aside resources to support the industrial clusters. The South African government approach in supporting industries is through the provision of the incentive schemes (Morris and Barnes 2007). Many industry cluster were in content with the government actions since incentive schemes were for all industries. The captains of the industrial clusters pointed out that the Special Economic Zones, Black Industrialist schemes are designed for a specific sector or programme. However the industrial clusters have to plea from government to set aside the left over from the main budget. The United Nations Conference on Trade and Development and United Nations Industrial Development Organisations argued that government should provide a policy framework that is destined to facilitate industry development support in a particular region or country (UNCTAD 1998, Ceglie and Dini 1999). The DTI (2014) developed the Industrial Clustering Development Programme that serves as a guide in supporting industrial clusters. In chapter three the guidelines were discussed at length. It has to be underscored that various provincial governments have different approaches in providing support in their respective clusters (Barnes, Bessant et al. 2001, Barnes 2003). The following are the organisations that were identified by participants which provide funding to support the industrial clusters:

- *Companies for Intellectual Property Commission (CIPC);*
- *National Arts Council (NAC);*
- *United Nations Education, Scientific, Cultural Organisation (UNESCO);*
- *International Federation of Pornographic Industry (IFPI);*
- *The Department of Trade and Industry (DTI);*
- *The Department of Economic Development Tourism and Environmental Affairs (EDTEA);*
- *Industrial Development Corporation (IDC);*
- *Local Municipalities;*
- *Growth Fund;*
- *Sector Education Training Authorities (SETA);*
- *Gijima Funding, and*
- *Lotteries Commission Trust Fund*

The KwaZulu-Natal regional government has in the past fifteen (15) years supported eight (8) industrial clusters. The first industrial clusters were automotive, textile and clothing as well as Seligna Furniture Value Chain (Barnes 2003). All three clusters are thriving and progressing regarding growth and contribution to the creation and sustaining the much-needed jobs in the KZN province and South Africa in particular. It is evident that the public-private partnership in supporting the industrial clusters has always been in place and it is not an initiative that benefits the private sector but also government draws positive spinoffs such as the contribution to economic growth, job creation and improvement in terms of competitiveness of the local industries (McCormick 1999, Enright 2003, Morris and Barnes 2007).

“Government has come up with the cluster fund (industry support) which the clusters can tap into, the Customised Sector Programme (CSP) funding. However, it is only the matured cluster that will be able to take advantage of those support measure. At the provincial level, there are problems of the duplication of programmes such as Industrial hub and the Industrial Clusters. Therefore clustering requires consistent support and funding. This is evident in the old clusters where they have been able to bridge a place where competition is at the external level (Not an internal competition), for example, Export markets and international competition. Therefore consistency is the key that has kept the industry at the very low levels of performance which has led to the large companies monopolising markets because of the lack of consistent support. The comparison of clothing and textile cluster and the furniture industry is the labour intensity and conservatism of those individual companies or industries in the furniture industry that are monopolising the markets. There is a great difference and the growth path within the textile and clothing cluster than in the furniture cluster because of the vertical clustering from JD Group to Steinhoff there is a huge window of opportunity for growth in making inroads into the international markets, but this is only for single firms. But those potentials are only accrued to a single firm more special in the furniture industry, and the rest of the industry is still struggling. There is a design and furniture manufacturing cluster located in a small city in Sweden called Tibro. The government of Sweden has funded it since 1972; this is a long-term vision and support that will be an easy way the South African government can sustain the clusters.” (Participant 10).

6.1.3. **The significant role of industrial clusters in industrialising the KZN province**

The study also unveiled that industrial clusters are a significant tool that could be used by related industries in industrialising the province and the country in general. Schmitz and Navdi (1999) indicated that industrial clusters had made formidable strides in the growth and development of emerging industries more especially in the developing countries. However, the impetus has been exacerbated on small industries than large companies. The main issue is that large companies have been instrumental in industrialising the economy and thereby managing the industrial networks (clusters) (McCormick 1999, Schmitz and Nadvi 1999). The study revealed that the KZN province in partnership with various industries had made a significant contribution to ensuring that some of the industries such as textile and clothing, maritime (Operation Pakisa); furniture and music are sustained.

The South African economy struggled to recover from the 2008 economic meltdown. The strategies and resolutions that were adopted during the Economic Recovery Summit hosted by the Department of Economic Development Tourism and Environmental Affairs were critical in coming up with the industrial think tanks (Economic Recovery Summit 2008). The industrial think tanks aimed to identify gaps and challenges in each sector and find niche opportunities. The drive of establishing and reinforcing the industrial clusters was at the centre stage in a bid to industrialise the KZN province. The outcome of this summit saw the establishment of the KZN Fashion Council, the Maritime Cluster, KZN Music Cluster and KZN Film Commission (Economic Recovery Summit 2008). The government also developed the New Growth Path (2010) which was geared towards robust industrialization, and it focused on five (5) job drivers in a bid to enhance competitiveness:

Infrastructure Development;

- ✓ Main Economic Sectors (Including agriculture, textile, and clothing, automotive sector, creative industries, energy, pharmaceuticals, wood and forest, maritime and more.);
- ✓ Seizing the new economic potential;
- ✓ Investing in Social capital and public services, and
- ✓ Spatial Development.

The South African government remained resilient in forging working relations with all stakeholders and social partners such as the union federations, businesses and civil society in creating decent work, reducing inequality and dealing with poverty. During the study, most participants attested that the industrial clusters are the future in assisting the government in dealing with the triple challenges of the National Development Plan, that is, unemployment, poverty, and inequality (National Development Plan 2014).

“The adoption of Industrial Policy Action Plan and establishment of the black industrialist scheme by government encouraged people to establish businesses or industries in a bid to create employment, produce at a mass scale and to increase productivity within the region. This initiative encouraged businesses to leverage on those opportunities that will have a significant contribution to the GDP of the province,” Participant 1.

“For example, the eThekweni Maritime Cluster can pull foreign investors to participate in the industrialisation of the province. Through the Operation PAKISA, countries such as Panama Island visited the province in a bid to invest and get more information about the oceans economy.” Participant 2.

The KwaZulu – Natal Industrial Development Strategy (2005) identified structures and organisations to be used as vehicles to implement the industrial strategy for the province. Some of the identified institutions are Ithala Development Corporation, Trade and Investment KwaZulu-Natal, Dube Trade Port and Tourism KwaZulu-Natal. The role of the KZN Industrial Development Strategy was to provide a strategic direction for collaboration between all these institutions.

The following are the strategic objectives of the KZN Industrial Development Strategy (2005):

- ✓ To enable the local economic development and township regeneration and urban renewal.
- ✓ To stimulate rural economic development.
- ✓ To craft a provincial tourism master plan in a bid to place tourism as a key contributor into the KZN economy.

- ✓ To stimulate the exponential growth in trade and investment between KwaZulu-Natal and other African Regions. This emanates from the fact that KwaZulu-Natal boost with the biggest port and serves as a Trade Gateway to African Continent.
- ✓ To develop and promote Black Economic Empowerment Programme.
- ✓ To stimulate growth and promotion of Small Medium Micro Entrepreneurs.
- ✓ To encourage and establish technology innovation centre and increase competitiveness in priority sectors of the KZN economy.
- ✓ To provide unwavering support and improve logistic competences and enhance supply chain competitiveness.
- ✓ To establish and support the KwaZulu-Natal Investment Strategy and its implementation plan in a bid to attract investors.

a. Establishing the interim and medium term Industrial priorities in Kwazulu-Natal

The following are the areas targeted by KwaZulu-Natal province in respect to trade, industry and services (KZN Industrial Development Strategy 2015):

- ✓ To advance trade and logistics in a bid for KZN province, country and region to be services and work optimally;
- ✓ To establish world class agro-business industrial clusters and high value addition manufacturing;
- ✓ To establish the centre of excellence in information and communication technology, trade and financial services, film, music and television;
- ✓ To promote the KwaZulu-Natal province as a competitive industrial destination for both local and international markets;
- ✓ To develop a strong human resource capital for all industrial priorities; and
- ✓ To develop and increase support for other sectors such as creative industries, commercial technological design, textile and clothing, paper and pulp.

b. The cross cutting measures and programmes for industrialisation

The province of KwaZulu-Natal has abundant supply of service providers of goods and services that are facing different challenges. The industrial development strategy identified array of cross cutting issues for industries to become competitive. The following programmes have ability to enhance competitiveness of the province:

✓ **Logistic and Transport**

The Durban and Richards Bay are the biggest ports in the African continent combined with 75% handling of all local and international trade transactions and containers. The issues of transport and logistic plays a crucial in relations industrialisation (Barnes, Bessant et al. 2001, Barnes 2003). The special economic zones impact positively on transport and logistics since it provides cybersports, warehousing, commercial and retail opportunities (Morris and Barnes 2007).

✓ **Small Medium Enterprise Development**

The small Medium Enterprises in South Africa are playing a vital role in growing the economy (KZN Industrial Development Strategy 2005). There is a growing plausible notion that some emerging economies are now dependant to the growth and development of the SME's as they have a strong linkage in the global and national value chain in relations industrialisation (McCormick 1999).

✓ **Export Development and support**

Export Development is the integral part of trade and investment and the balance of trade in any developing and well developed economies (Schmitz and Navdi 1999). For industrial clusters to grow and prosper, there has to be a great effort in trying to produce competitive products in order to be able to compete with the rest of the world.

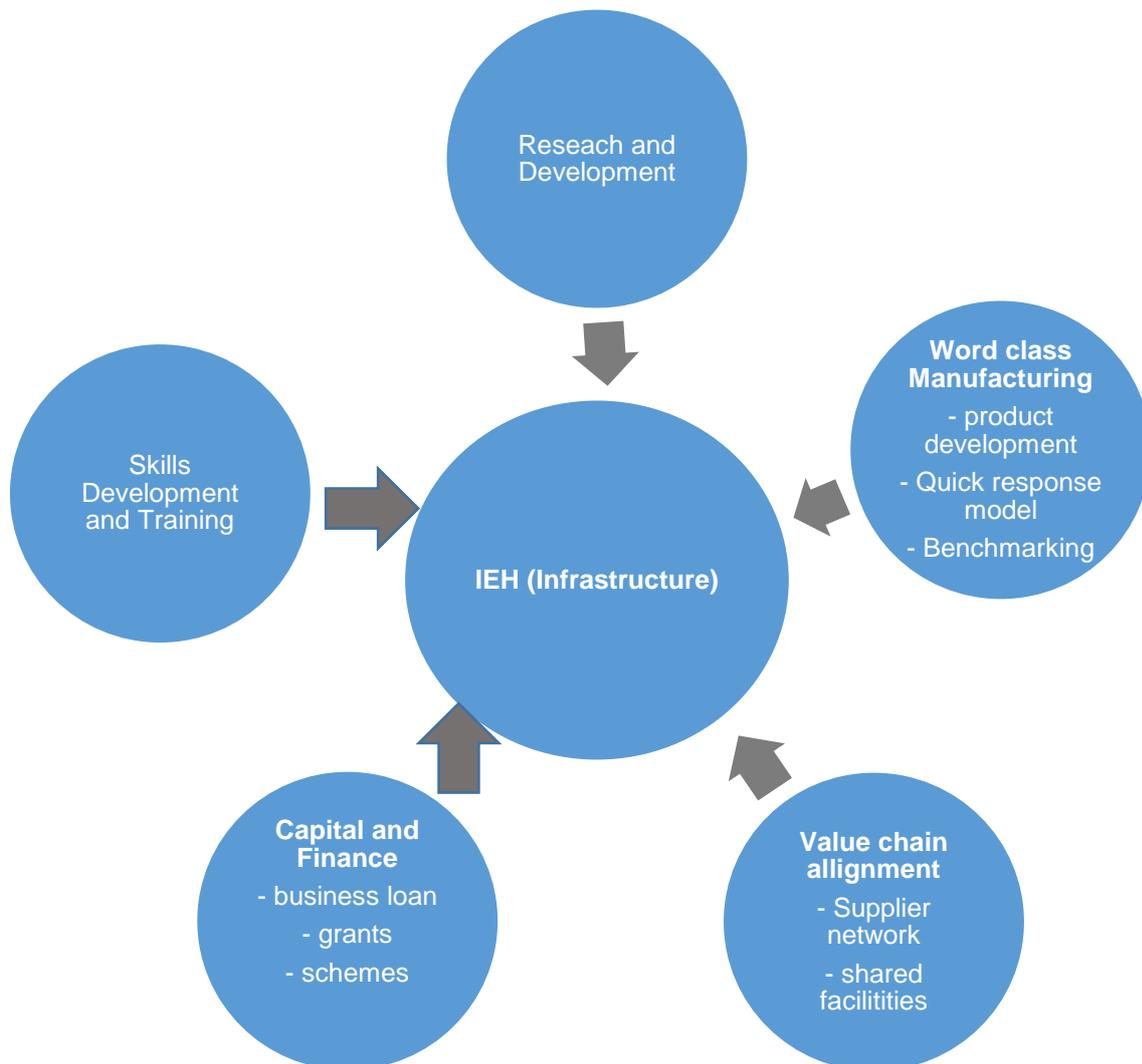
✓ **Technology Design and Innovation**

As the world is progressing towards the fourth industrial revolution, the province should strive to improve technology through the setting up of Technology industry Forums which will assist in enhancing competitiveness of all priority sectors (Barnes 2003).

The Department of Economic Development Tourism and Environment Affairs has recently developed an industrial economic hub programme that is linked with the special economic zones. Other participants viewed this initiative as duplication of the same programme of industrial clusters because its focus is on specific sectors that have potential in industrialising the KZN province (Industrial Economic Hub 2015). Dorothy McCormick emphasised that industrialisation encompasses the sophisticated production processes (McCormick 1999). The industrial economic hubs are geared towards manufacturing and using sophisticated production technologies to produce high-end quality products. At the heart of the industrial economic hubs is the development of the state of the art facilities (*infrastructure*). The industrial economic hub concept has strong linkages with the special economic zones where production efficiencies and lead times are critical to compete with the rest of the world (Morris and Einhorn 2008).

The global indication, especially from the newly industrialised economies, depicts that no country has ever been industrialised without industrial policies (Cole and Ohanian 2001). This is evidence that the government policies are critical in levelling the playing fields for industries to grow and succeed.

Figure 6.1: The relationship between Industrial Economic Hubs (IEH) and Industrial Clusters



Source: Industrial Economic Hub Framework (2014).

The above diagram depicts the commonalities between the industrial economic hubs and the industrial clusters. Chapter two and three delved the scholarly views and opinions about the industrial clusters. The issues haunting government and private sector are the same. Most of the participants saw duplication of initiatives by government and echoed that there is a thin line separating the two initiatives.

The following are key areas of industry support measures that the hubs seek to present. The support measures differ per IEH (2014):

- i. Competitive rental rates;
- ii. Infrastructure support;
- iii. Adequate supply and subsidised rates for water and electricity;

- iv. Serviced industrial land;
- v. Funding support;
- vi. Policy and strategy refinement where required;
- vii. Research and development facilities;
- viii. Incubation facilities;
- ix. Responsible wage negotiations;
- x. Trade facilities, and
- i. Raw materials sourcing.

The issue at the centre stage of the industrial economic hub is the infrastructure development wherein industries share common facilities to maximise the economies of scale. One of the proponents of the industrial clustering concept from India Singh (2006) asserted that industries accrue benefits that arise from the geographical proximity (Gabor, Ceglie and Dini 1999, Porter 2000, Barnes 2003). The defining characteristics are:

- Knowledge spillover;
- Improved market access;
- A specialized and skilled labour pool;
- Infrastructure;
- The specialised labour input, and
- Enhanced access to specialised information on technologies and markets.

Therefore it is evident that industrial clustering is still relevant in assisting the government in realising the strategic goals and objectives of industrialising the country and the KZN province in particular.

6.1.4. The Public Private Partnership (PPP) in promotion of Project Finance Structure

The industrial clustering concept has got critical mechanisms that are unavoidably to be supported either by government, private sector, industrial clustering/parks or agents. These mechanisms and inputs are to be supported financially. For example, the funding options available for textile and clothing cluster/industrial Park is indicated in the table below:

Table 6.1: Industrial Clustering/Parks Finance Options through PPP

Components/mechanisms	Sources of Funding		
	Entrepreneur	Government	Bank
Land	✓		
Plant and Machinery	✓		✓
Individual Factory Buildings	✓		✓
Infrastructure Inside the Park	✓	✓	
External Infrastructure		✓	

Source: Singh (2006)

The above figure indicate that the sources of funding various business components but the overall integral partner in this is the entrepreneur who is desperate to get support from government as well as from the bank. It should be underscored that the private public partnership finance model has been implemented in Industrial Parks such as Textile and Clothing Industrial Parks. Below are details of the finance structuring model of the PPP in the textile and clothing industrial park (Schmitz and Nadvi 1999, Porter 2000, Morris and Barnes 2007, Ozgen 2011, Riasi 2015):

- a. The textile and clothing industrial cluster is modelled in a public private partnership.
- b. Government usually provides limited support such as basic services (water, electricity) and the provision of shared building facilities. Industries thereof have to organise additional resources through a combination of finance and debt equity.
- c. It is a worldwide phenomenon more especially in the developing economies where emerging enterprises have a difficulty in raising collateral or security. For SME inside the industrial park using the Special Purpose Vehicle tend to benefit because there are no heavy burdens of raising collaterals or security as individual companies. The classical example is the proposed industrial economic hubs that are proposed by KZN Department of Economic Development, Tourism and Environment Affairs where industries will be expected only to raise operational resources since the infrastructure will be developed by government and those industrial clusters have to focus on developing their industries in order to be being competitive.

- d. At some point the Special Purpose Vehicle borrows finance from the financial institutions in order to develop industrial parks. The equity is usually the combination of member's contribution and government grants. The financial institutions recoup their capital through the service level agreement that is signed between the SPV and individual cluster members. This mechanism ensures that there is an intact contractual obligation from individual members/enterprises not to default.
- e. For example, Singh (2006) pointed out that in India a debts Service Fund was established and it was managed by the special purpose vehicle of industrial cluster members. Individual enterprises were contributing service fees. These funds were usually used by the industrial park special purpose vehicle in order to maintain the building and for operational costs and service the debt.
- f. The individual units also sign a pre-determined agreement to pay for the management fees for facilities of the industrial park.
- g. In earnest banks tend to relax their stringent requirements if such control measures are in place. Therefore costs to capital are reduced if such funding model is in place.
- h. In India usually (Singh 2006) a cluster of banks is created in a bid to finance certain industrial parks with the potential to create jobs and grow the economy and with minimum risks.

Therefore table 5.1 indicate a win – win situation of all major stakeholders (Entrepreneurs, Banks and Government).

- ✓ The government provide financial and non-financial support to special purpose vehicle and to cluster members and thereby sought to achieve the desired outcome.
- ✓ The role of the financial institutions is to ensure that the capital provided to the special purpose vehicle and cluster members has minimum transactional costs and risks associated with security and the servicing of debt.
- ✓ For the role of the Small Medium Enterprises, the issue is to keep their risk profile very low in order to be able to access finance without any difficulty.

6.1.5. **The programmes and services undertaken within the industrial Parks Development**

The qualitative study indicated that the public private partnership is critical in ensuring the competitiveness of the individual firms (Porter 2000, Newlands 2003, Markus 2008, László 2014). The following are essential processes that dovetail activities within the industrial park:

a. Project Development

- i. Mobilise and identify potential tenants to occupy the industrial park units in a bid to ensure critical mass of industries to become part of the special purpose vehicle.
- ii. Encourage the industry clusters to establish the special purpose vehicle;
- iii. Collaborate in procuring business site and the acquiring of environmental impact assessment.
- iv. Develop a bankable business plan which detail the operational, financial arrangements, institutional framework and the proposed park.
- v. Mobilising government to provide financial support to industrial parks

b. Infrastructure Development and procurement of material

- i. Development of terms of reference with detailed architectural designs, factory/industry buildings, and other facilities within the industrial park.
- ii. Appointment of the suitable construction company to develop the industrial park.

c. Access to Capital

- i. Mobilise resources for the Special Purpose Vehicle from financial institutions for capital and operational expenses,

d. Project Implementation

- i. Provide monitoring of the construction phase in order to ensure completion of the industrial park. Adherence in terms of time, specifications and schedules has to be maintained.

e. Training and Development of the Special Purpose Vehicle (SPV)

- i. Provision of training to SPV members in various business aspects such as financial, legal and managerial costs of running industrial clusters.
- ii. Training of the special purpose vehicle members in areas such as South African National Standards – ISO 14001 (Morris and Dunne 2004)
- iii. Provision of skills training and development programme.

f. Procurement of latest Technology

- i. Provide institutional support to emerging enterprises in terms of the procurement of the latest technology
- ii. Mobilise buyers for better offers in terms of bulk buying in a bid to save costs.

g. Marketing and communication

- i. Provide strategic support to the special purpose vehicle in developing integrated marketing plan and linkages thereof.

6.1.6. Industrial Clustering Financial Framework

The industrial clustering financial support measures play a significant role in addressing the international competitiveness of developing and changeover economies and the issue of financing needs and financing options. According to Morris and Barnes (2007) outlined a framework with key elements of the endurance and replicability of industrial clustering model for industrial parks.

This proposed context seeks to deal with the key issues (determinants) at three (3) levels, i.e. Micro or enterprise and cluster level; Meso or project conceptualisation at institutional level and Macro or overall policy imperatives and trade environment level. Below is an industrial financial framework which does not only separate the important elements that need to be paced elsewhere but can also be used in identifying gaps in a bid to scrutinise the availability of such elements and activities an any industrial cluster initiatives (Morris and Barnes 2007, Köhler 2014).

Table 6.2: Industrial Clustering Financial Framework

Strategy Level	Component	Determinants
Micro	Cluster and Entrepreneurs	<ul style="list-style-type: none"> ✓ Availability of critical mass of enterprises ✓ Product with market potential ✓ Location with potential competitive advantage ✓ The potential of clusterpreneurs who could play a significant role ✓ The importance of industrial clusters in networking and collaborating with each other for the benefit of all cluster members
Meso	Project Development	<ul style="list-style-type: none"> ✓ The immediate approach in working as a collective in all conceptual projects instead of working in silos ✓ Raising capital in a bid to invest in prospective projects
	Project Financing	<ul style="list-style-type: none"> ✓ Development of a innovative financing structure for small medium enterprise and bankable projects ✓ Sealing a financial assistance before initiating a project ✓ Devise a method or a structure of servicing debt
	Project Ownership	<ul style="list-style-type: none"> ✓ Commitment by industry to focus on commercialising their businesses into sustainable public private partnership (PPP) in a form of Special Purpose Vehicle (SPV) model ✓ The propose Special Purpose Vehicle should be wholly driven and owned by entrepreneurs
	Project Management	<ul style="list-style-type: none"> ✓ This is a professional team of specialists that comprise of financial institutions, infrastructure developers and service providers who undertake to conceptualise a project from the start to end ✓ Provision of monitoring and evaluation of a project from conceptualisation to implementation

	Project Operations and Management	<ul style="list-style-type: none"> ✓ Development of the apposite framework for operational and management of industrial park (e.g. Rental, water, electricity and rates)
	Technology and marketing linkages	<ul style="list-style-type: none"> ✓ Development of high end quality products that are demanded by local and international markets ✓ The procurement of requisite and latest machinery and equipment that are tailor made to suit the prospective products to be produced through the special purpose vehicle. This motive will encourage bulk buying and thereby reducing costs ✓ Inaugurating marketing linkages with potential buyers and development of integrated supply chain management system and thereby taking advantage of the economies of scale
Macro	Policy Framework	<ul style="list-style-type: none"> ✓ Government incentive schemes that are geared towards assisting small medium enterprises in initiating and taking charge of their special purpose vehicle ✓ Provision of funding by government in a form of infrastructure development in order to ensure financial sustainability of the industrial cluster ✓ Government actions in developing cluster projects by way of providing technical assistance through a professional project management development agency.
	Global Trade and marketing Environment	<ul style="list-style-type: none"> ✓ The conducive global trade environment for high end quality products that encourages investment by industries

Source: Morris and Barnes (2007)

6.2. Objective two: The relationship between Industrial clustering and organisational competitiveness

The presentation of the quantitative results attested to the fact that most participants agreed that industrial clustering enhances the organisational competitiveness of the industries.

In the quantitative analysis, there were nine (9) exploratory items (Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19 and Q20) that were grouped together and they were addressing the benefits of industrial clustering hence the name of this group or construct “**Industrial Clustering Benefits and Organisational Competitiveness**”. The qualitative analysis in this regard also came up with the theme “**organisational competitiveness**” and “**categories**” and “**nodes**” relating to the theme. Therefore, there is an alignment between the research instrument and the structured questions.

6.2.1. Organisational Competitiveness

Many scholars defined organisational competitiveness as the location of industries or companies with the same interconnectedness regarding products or services (Hill and Brennan 2000, Porter 2000, Ozgen 2011). In this instance, the study revealed that firms have to share a common relationship that binds them together in order to operate at the geographic space that will enhance competitiveness of their industries (Markus 2008, László 2014). There has to be an anchor industry that drives the establishment of the industrial cluster. The cluster establishment encompasses common elements along the value chain such as technology and information sharing; specialised pool of labour supply; trade secrets and sharing of operational costs (rental, transport costs, buildings, water & electricity, training and development) (Gordon and McCann 2000, Porter 2000, Morris and Barnes 2007). Therefore industrial clusters strengthen the competitiveness of each firm and thereby creating the competitive advantage for all (Bumgardner, Romig et al. 2007). For example, in the furniture manufacturing, clustering is forged through the forestry owners; sawmill operators, designers, manufacturers and distributors (Bumgardner, Romig et al. 2007). In Porter (1990) diamond model emphasises that related industries along the value chain forges partnership and work together in order to maximise the potential. The research discovered that the textile and clothing industry as well as fashion industry should be working together in one vicinity or location since these industries need each other.

The manufacturer of the textile should better understand the fashion trends and the demands of the of the industry value chain. Likewise in the furniture industry the saw millers have to work closely with the furniture manufacturers. As the world changes with effect and impact of the fourth industrial revolution, firms have to adapt and compete with the rest of the world in order to sustain. This is not easy if there will be no synergy in working together as networks. In this instance the influence of location on competition and competitive advantage is based on relatively simple views of how companies compete. These see competition as largely static and resting on cost minimization in a relatively closed economy. The comparative advantage in factors of production is decisive. In more recent thinking, increasing returns to scale play a central role. Yet actual competition is far different. Competition and competitiveness are dynamic and rests on innovation and the search for strategic differences. Close linkages with buyers, suppliers, and other institutions are important, not only to efficiency but also to the rate of improvement and innovation. Location affects competitive advantage through its influence on productivity and especially on productivity growth. The generic factor inputs become abundant and readily accessed by industry cluster members. The prosperity of the industrial clusters depends on the productivity with which factors are used and upgraded in a particular location. Economic development seeks to achieve long-term sustainable development in a nation's standard of living, adjusted for purchasing power parity. Standard of living is determined by the productivity of a nation's economy, which is measured by the value of the goods and services (products) produced per unit of the nation's human, capital, and physical resources. Productivity, then, defines competitiveness. The concept of productivity must encompass both the value (prices) that a nation's products command in the marketplace and the efficiency with which standard units are produced.

a. Maximisation of Economies of Scale

The industrial clustering concept is based on the theory of economic development (Porter 1998, Newlands 2003). David Newlands (2003) postulates that related firms or industries which manufacture complementing goods or services usually come together in a central location to share information related to technical skills, human and financial resources and thereby maximising the economies of scale. In some cases, small industries emerge as a result of the niche opportunity that prevails within the industrial cluster complex (Nadvi 1999, Morris and Einhorn 2008).

Marshall (1921), in his book *Principles of Economics*, asserted that infrastructure and location plays a critical role in drawing industries into the industrial parks (Krugman 1998). The private sector plays an integral part in ensuring the development of industry clusters. Some participants attested to the fact that industrial clusters were not developed by Michael Porter however they were advocated by Alfred Marshall (book *Principles of economics*) who established industrial districts. The core imperative is the competitiveness on how swiftly the finished product can reach the market. If you operate and co-exist in an environment where you engaged in an international trade, and there are imports coming to create more competition in the country you need to leverage your strengths so that you can export more products in order to maximise profits. This was another new dimension in the maximisation of economies of scale where competitiveness is meaningless if the final product does not reach the final destination. It is further discovered that companies should be able to leverage on opportunities and maximise the economies of scales. In this regard, this will assist in reducing input costs to produce quality products; improved technology and improved competitiveness.

Most participants unanimously supported the notion of competitiveness that industries within the value chain accrue more benefits if they share infrastructure facilities and thereby maximising economic returns (profits) (McCann, Arita et al. 2002, Gorynia, Jankowska et al. 2007). The cost of production could also be minimised if industries are co-located within the same vicinity (Ceglie and Dini 1999, Porter 2000). For example, in the textile and clothing cluster, there are cut-make-trim, textile suppliers as well as designers. In this instance industries within the value chain benefit by forming Kereitsus (Sub-Clusters) that encourages production efficiencies; designs capacity and innovation and ultimately maximise the economies of scale (Burt and Doyle 1993, Barnes 2003).

b. Design Capacity and Innovation

The revelation by study on the design capacity and innovation came strongly as one of critical components of the fourth industrial revolution. According to Michael Albu (1997) defined technology as art and science of undertaking eminent issues through the use of skills and a better understanding of the environment.

This involves the technical know-how of executing a specific task through the use of appropriate technology (Albu 1997, Mytelka and Farinelli 2000, Basant 2002). For example, in the music industry technology is fast growing in such a way that physical distribution is something of the past. The digitisation of music has affected the whole music industry value chain including the end users (customers). Music fanatics are now forced to own smartphones to download their favourite artists. The globe has gone digital so firms or industries either adapt or get rejected by the system. One of the imperatives that people vehemently denies is that technology is there to stay and make things better. For example, KZN has a State of the Art facility, the recording studio. It has been only learned recently that the software has to be upgraded every year because technology changes every year. Currently, there are digital studios that are using advanced technologies. In keeping with these changes, the KZN Music House had to ensure that a studio upgrade and new digital desk was procured in a bid to stay afloat (competitive) and thereby increase productivity regarding producing good quality products (Music and Digital Versatile Disk).

Industries are set to perform and compete better when appropriate and advanced technologies are acquired (Mytelka and Farinelli 2000, Jan Stejskal 2011). The debate is whether a design capacity and innovation are available in South Africa. There has been an outcry that South African industries are lagging behind from the rest of the world because of the problem of appropriate design and innovation skills (Mytelka and Farinelli 2000). It is asserted that the technological understanding is contained within an individual that is knowledge, skills, and routines – and therefore transmitted to the use of the machine or equipment (Heizer and Render, Albu 1997). The study pointed out that advanced technologies are critical in driving competitiveness of the industries more especially if those industries are working together within the industry value chain and there are due benefits to be accrued by members (Kaplinsky and Morris 2008, Jan Stejskal 2011).

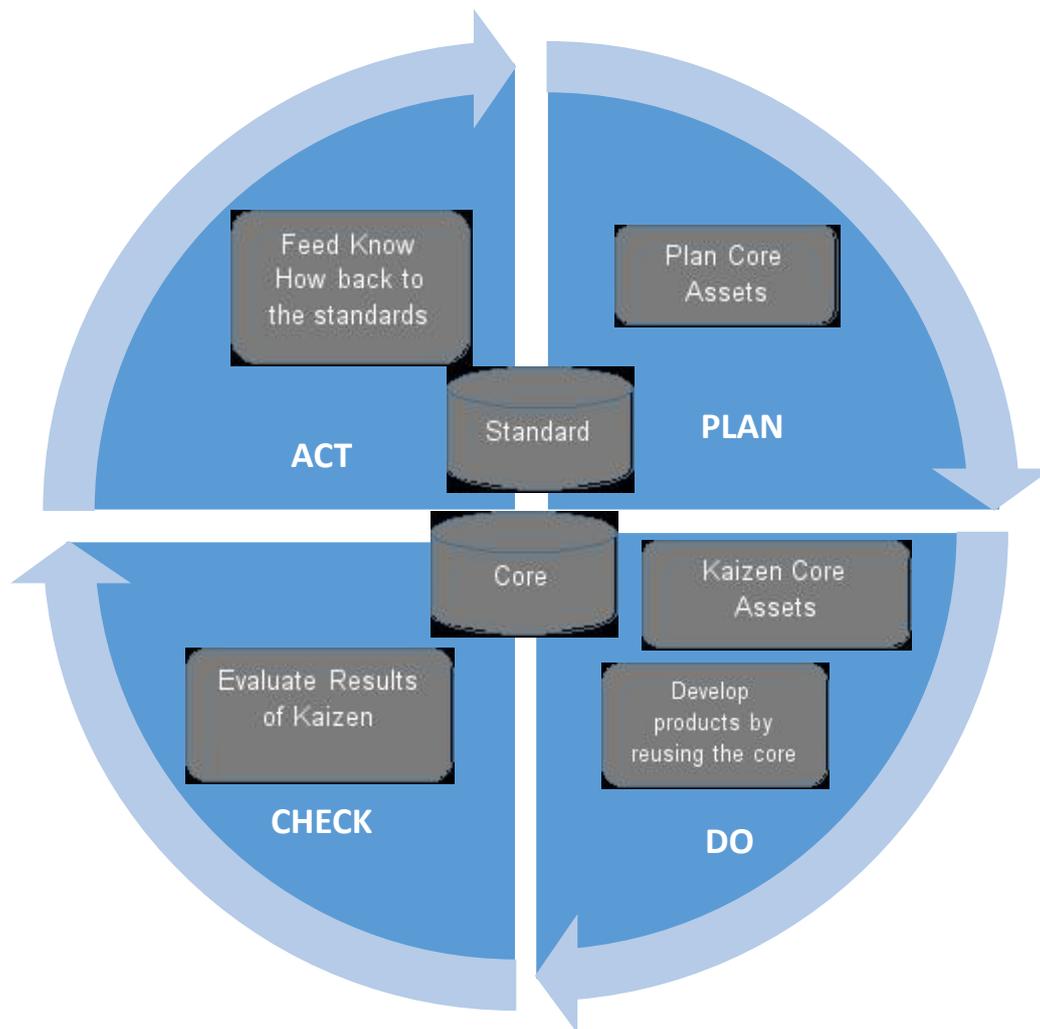
The research discovered that technological advancement is a requisite in order for industries to prosper and grow with the embedded ripple effects such as savings on labour costs, meeting and comply with the international standards (South African Standards), producing high quality products, up-killing local labour to operate advanced machinery.

In order therefore to produce large quantities in a short space of time, advanced manufacturing processes and mechanisation is of paramount importance. Therefore for industries to thrive and be globally competitive, technology alone is not sufficient however the technical know-how is critical to physically operate, integrate and respond to the changing environment (Meyer-Stamer 2002, Köhler 2014).

c. Continuous Improvement

The study revealed that production efficiencies could be realised only if industries within the cluster could continuously strive to improve production capacities, lead times, and quality and thereby compete with the rest of the world. The word Kaizen is drawn from the Japanese meaning Continuous Improvement (CI) (Inoki and Fukazawa 2007). Industries felt that working together within the value chain could maximise the economic opportunities provided there are good synergies (Heizer and Render, Barnes 2003, Jacobs, Chase et al. 2004, Heizer 2016). In this instance, continuous improvement approach seeks to provide a set of core principles from the Japanese *kaizen* concept and illustrate the contingent nature of the design and organization of continuous improvement (CI) processes, especially with respect to product/process standardization and work design. Given differences in the overall degree of standardization related to product design and process choice, two types of standards to reduce variability at operator work process level should be considered: indirect system standards, e.g. for skills, organization, information and communication; and direct standard operating procedures (SOPs). It is proposed that two team-based organizational designs for CI (organic CI and wide-focus CI) are functionally equivalent to the Japanese *kaizen* model, particularly when combining indirect system standards of skills with a group task design and low degree of product/process standardization. Expert task forces and suggestion systems are complementary organizational designs for improvement processes, particularly when work design is based on individual tasks and direct SOPs. The research also found that most of the respondents agreed that continuous improvement is critical in ensuring that the industrial clusters under review set high targets to maximise profits, assist in benchmarking against international best practices, continuously assess the cluster and the board itself in a bid to strengthen the capacity and leverage on the country's bilateral agreements to maximise the opportunities such as exchange programmes or enhance skill development

Figure 6.2: The process flow of the KAIZEN Approach



Source: Adapted from (Inoki and Fukazawa 2007).

Figure 6.2 depicts the progression of Kaizen consisting of Plan; Do; Check and Act. This process flow encompasses the managerial application and implementation of continuous improvement in an organisation. In a cluster environment, the Kaizen approach is critical in ensuring that firms are abreast with the changing environment (Jacobs, Chase et al. 2004). The technical spillover and know-how to assist firms to share the knowledge more specifically to related industries within the value chain (Basant 2002, Scheel 2002, Tallman, Jenkins et al. 2004).

The Kaizen approach takes the process of project management wherein the following processes are undertaken:

- i. The starting point is conceptualisation and planning;
- ii. The second step involves the implementation;
- iii. The third phase is to evaluate the results whether the intended project is on track, and
- iv. The last phase is to make improvements in the work standards and thereby to make new improvements.

d. Skills Development and Training

Most participants felt that skills development and training is critical for industrial clusters to be competitive (UNCTAD 1998, Scheel 2002). The underlying factor is that the SETAs and schools of higher learning should play a meaningful role in the growth and development of the industries. Therefore the Department of Education has a role to play in ensuring that the skills development programmes offered at the TVET colleges can respond to the industrial clustering competitive programmes.

“Government should introduce skills programmes that are geared towards increasing production and productivity efficiencies. The industrial clusters should work closely with the Department of Education in order to develop relevant or appropriate curriculums that are destined for the certain labour market.” Participant 4.

The furniture and textile and clothing industries have registered a great interest regarding the continuous training and development as the two industries require perpetual continuous technological training especially in the design capacity (Albu 1997, Ceglie and Dini 1999, Cho, Moon et al. 2008). Advanced technologies warrant clusters to work closely in order to be competitive with the rest of the world (Scheel 2002).

e. Locations

The study revealed that spatial location is a link between firms or industries within the value chain. If industries within the value chain are located within the proximity there will be an increase in production efficiency, maximisation of the economies of scale, lead times will be shortened and less travelling distances (Basant 2002).

“If companies are located in the same area of operation they tend to share transport costs, reduce lead times, e.g. button and fabrics manufacturing industries could forge working relations to reduce lead times.” Participant 3.

Therefore location impacts on some issues related to the competitiveness of the industry, achieving long-term sustainability and maximisation of profits (Porter 2000, Barnes 2003). For example, in the music industry for an album to be completed and ready for market, the music industry value chain has to work closely for the final product to be released.

f. Increase Local Content

The study indicated that the increase in local content is key in ensuring that local economies are sustainable. This warrants the employment of advanced technologies in order to be able to produce finished products. The outcry in most industries is the value addition, beneficiation of raw material and design capacity (De Backer and Miroudot 2014). The furniture cluster indicated that South Africa produces high-quality timbers, but unfortunately there is limited intervention regarding value additions and design capacity. The Eastern and Western countries are very competitive regarding producing high-end quality products, and this is due to the design capacity and beneficiation.

In that note it should be underscored that there are many challenges in the music industry such as Piracy and Speed – digital space and platform. For the local content to increase, it is incumbent to the local producers to encourage the local customers to buy local and not to buy the pirated goods or CD's as this scourge is crippling the music industry. In term of the local content if the suppliers/producers can sell the finished product at competitive prices, therefore customers will be able to buy in large quantities. The local industry clusters should, therefore, invest in the development of advanced technologies to beneficiate local raw material and thereby to produce high-quality local content (Mytelka and Farinelli 2000).

g. The available opportunities for new entrants (SME) to enter into the Industrial clusters (mainstream economy within the value chain)

It was evident from the study that industrial clustering provides phenomenal business opportunities to emerging industries (schimitz 1999, Porter 2000, Udovik 2014).

Within the cluster, there is a variety of industry services such as labour supply, raw material suppliers, advanced technologies and technological know-how, machines and equipment, information and available markets (Barnes, Bessant et al. 2001, Morris and Einhorn 2008). Therefore barriers to entry in certain industry clusters are very low. At its core, the Value Chain Alignment (VCA) programme focuses on forging synergies between clothing and textile suppliers and the major clothing retailers they supply (Schimitz 1999).

Securing retail opportunity has been critical in establishing a forum to facilitate interventions for alignment through the value chain (Kaplinsky 2000, Morris and Barnes 2007). For example, in the music industry the barriers to entry are very high. For a single or a full album to be on high rotation on most radio stations, there have to be kickbacks paid to music compiler which ultimately will filter down to radio Disc Jockeys (DJs). Porter (2000) indicated that in some instances barriers to entry are very low. This emanates from the fact that financial institutions might be interested in funding organisations within the cluster value chain as risks are very low (Jacobs and De Jong 1992, Gordon and McCann 2000, Caniëls and Romijn 2003). The barriers to exit are also very low as there are no strings attached (Porter 2000, De Backer and Miroudot 2014). Some of the classical example cited was that of Michael Porter. The predicament is the barriers to entry by emerging artist (never produced an album). If the emerging artists aspire to enter into the music industry (market) that becomes a challenge. This requires robust marketing, for example, Payola. People have to place a brown envelope to music compilers for the artists to be on a playlist. If not acting on that their music won't be on rotation or air played (on the radio stations). The multinationals ensure that if you don't coexist with them or sign deals with them, your music won't hit the shelves. For example, Mayonie Production and Afrotainment have signed distribution agreements with Warner Brothers and/Sony Music so that they will be able to get into the value chain and their music will be found on the shelves.

The study revealed that in the textile and clothing cluster, maritime cluster and furniture cluster membership is closed. There is no room for emerging or new entrants. The cluster boards are very protective of their industry clusters which make it difficult for the emerging industries to enter into the mainstream economy of the textile and clothing industry, furniture and maritime clusters, especially in KZN.

The fashion council (cluster) and music cluster are the only two out of five clusters that have low barriers to entry. But it has to be underscored that the barriers to entry in the music industry value chain, in general, are very tight (Porter 2000, Morris and Barnes 2007). In this instance, music cluster became the only available option in KwaZulu-Natal where artists still have easy access to join and engage with other cluster members. There are a fear and flawed notion by large companies that small or emerging firms have a growth potential in outsmarting the conglomerates. This emanates from the fact that small firms tend to specialise and thereby to perfect their businesses (Schmitz and Nadvi 1999).

h. Critical Success factors that make industrial clusters to grow or succeed

The study depicted that there are some factors that should be considered in ensuring that the industrial clusters become a success. Organisational competitiveness and leadership (Altenburg and Meyer-Stamer 1999, Barnes, Bessant et al. 2001) came strongly as most participants felt that government and private sector should come together in ensuring that proper leadership is employed in taking the aspirations of the industry forward. For example, the furniture industry cluster was at a point of shutting down because of the leadership and governance. This warranted government and industry stakeholders to pull out their resources as the intentions of the cluster were no longer fulfilled. The essence of the industrial cluster to grow or succeed lies in the harmonization of the industries regarding vertical and horizontal linkages (upstreaming and down streaming); networking; sharing resources and provision of technical training especially on new technology (Nadvi 1999, Schmitz and Nadvi 1999).

The study further revealed that the industry value chains are an integral part of ensuring that industry clusters grow. The value chain integration could be with the local or international companies producing or manufacturing same or complementary products (Schmitz and Nadvi 1999, Kaplinsky, Morris et al. 2002).

The issues raised were relating to production processes where the raw material supply is supposed to be connected to production, production to industrial design and design to local and international marketing (Barnes, Bessant et al. 2001, Bessant, Kaplinsky et al. 2003).

The following were the views of the participants relating the critical success factors for industrial clusters to grow or succeed:

- i. Conducive environment;*
- ii. Harnessing of economies of scale;*
- iii. Good value chain;*
- iv. Maximization of profits;*
- v. Access to supply customers on time and at competitive prices, this will lead to efficient lead times;*
- vi. Application of just in time (where there are no storage facilities);*
- vii. Good infrastructure;*
- viii. Good transport and logistics system;*
- ix. Good support mechanism – Efficient broadband – for example, good communication to operate effectively and efficiently, and*
- x. Good competitive advantage.*

i. The benefits of joining the Industrial Clusters

The study revealed that there was a consensus that the industrial clustering concept has enormous benefits that are accrued to members joining the cluster (Porter 1998, Newlands 2003, Markus 2008). The industrial clustering concept was first propagated by Alfred Marshall (1920) in his book *Principles of economics* where he emphasised the point of industrial districts where firms tend to benefit if they form small industry associations vertically and horizontally integrated into a geographically defined space. This notion was further qualified by many scholars who based the cluster concept and benefits into three elements (Porter 1998, Tallman, Jenkins et al. 2004, Markus 2008):

- i. Geographical concentration of firms;*
- ii. The availability skilled labour, and*
- iii. The availability of knowledge based across the value chain of the firms.*

The common elements that came out strongly from the study were the issues of networking and communication amongst the cluster members. The cluster members enjoy the presence of other members within the proximity regarding sharing information relating to productivity, raw material supply, continuous improvement, technological know-how, new markets, lead times (McCormick 1999, Caniëls and Romijn 2003, Obstfeld 2003). The following are the summation of the findings from the study:

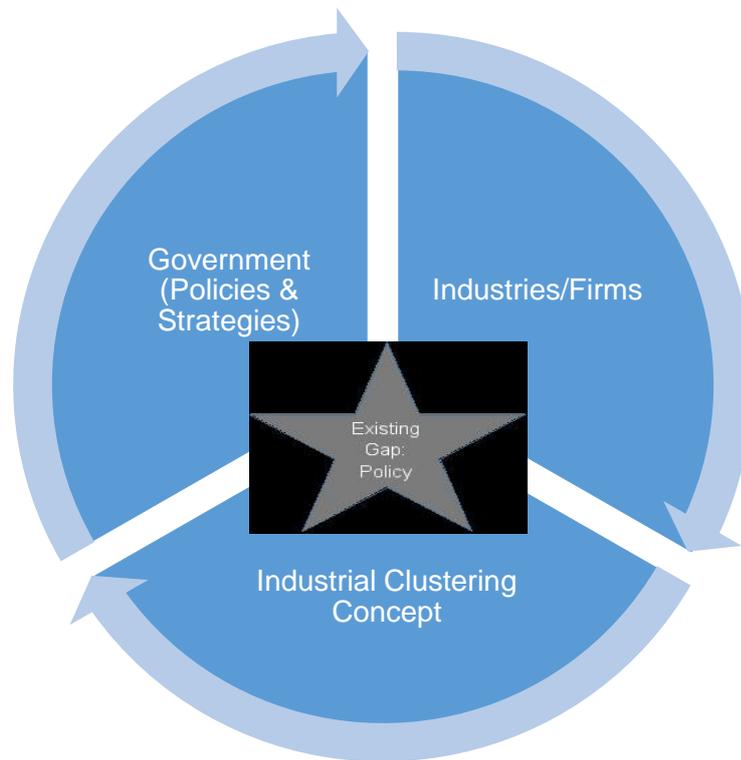
- i. Opportunities;*
- ii. Exposure;*
- iii. Industry linkages and support;*
- iv. Affiliation;*
- v. Networking, and*
- vi. Information Sharing.*

The issue of exclusion of those industrial clusters that are already benefiting from government programmes was vehemently rejected by most participants. The contestation was that government should set guidelines or a framework that will assist industrial clusters in tapping into various industry support measures (Barnes 2003).

6.3. Objective Number three: The reasons for the downfall of the industrial clusters.

The study identified a policy gap that does exist between the industrial clustering and the policy imperatives offered by the government. The processes followed by engaging industrial clusters by the government are skewed, and they are different from one cluster to another depending on the nature of the business plan.

Figure 6.3: The existing Gap between government and industrial clusters



Source: Author

Figure 6.3 depicts that the role and responsibility of government are to develop policies and strategies to level the playing fields. The industries/firms are critical in ensuring that they contribute meaningfully to the economy of the country and can compete with the rest of the world. The existing gap prevailed when the industrial clustering concept was introduced in South Africa. The developing countries including South Africa are still finding their feet on the ground regarding the implementation of the industrial clustering concept. In the midst of the absence of the policy imperatives, the DTI (2016) therefore developed guidelines (not a policy) that will assist industrial clusters to access funding. The industrial clusters have struggled to form networks/association as there were no guiding principles from the government in assisting the industrial clusters in becoming competitive with the rest of the world (Humphrey and Schmitz 2000, Humphrey 2001, Barnes 2003). The imperatives are yet to be developed in order to ensure that the government and private sector find a common ground in a bid to enhance the competitiveness of the various industries.

There are some provinces that are still struggling in establishing industrial clusters because of the policy gap that needs to be addressed as a matter of urgency in order for government to deliver according to industry expectation. Industrial clustering is characterized by number of issues. In a nutshell it is a continuum (Altenburg and Meyer-Stamer 1999). It is not novel that the environment is changing constantly likewise the industrial clusters. Industrial clusters should be viewed as a vigorous system where an observation could be made in respect of the structural changes in response to the economic liberalization. One of the reason of the down fall of industrial clusters is that not every existing cluster nourish in terms of goals and aspiration of individual firms hence they are all autonomous and different. The following are the three ideal types of clusters which will assist in identifying policy approaches and errors emanating from the outcome of one size fits all (Altenburg and Meyer-Stamer 1999, Ceglie and Dini 1999, Barnes, Bessant et al. 2001):

- a.** It has to be mentioned that the survival industrial clusters (small – micro enterprises) which manufacture low quality products for local markets where barrier to entry are very low tend to fail because of low standards. Industries belonging into these informal clusters are categorized by low wages and productivity as compare to medium to large industrial clusters. The level of interfirm concentration and collaboration is very minimal portraying the lack industry specialists in the local labour market (Porter 2000, Ozgen 2011).
- b.** In the same context, some industrial clusters which comprise of advanced specializing and product differentiated mass producers tend to excel in import substitution (manufacturing local for domestic and export - international markets). These firms are made up of different specialised businesses ranging from medium producers to conglomerates. Therefore with the deregulation of trade industrial clusters are forced to enter into an international competition and being exposed to far reaching policy adjustments (Morris and Einhorn 2008, Jan Stejskal 2011).
- c.** The Clusters of Transactional Corporations (CTC's) are characterized by advanced technologies with more sophisticated activities such as electronics and automotive industries. The members of these clusters are multinationals with world class manufacturing branches all over the world.

The drawback associated with most of these clusters is that there are no backward or forward linkages with the local small medium industries. However compliance with the local and international standards is a cornerstone for success (Morris 2006, Markus 2008). For example, in textile and clothing industry there are various stages of the value chain and these CTC's are therefore inclined to draw competitive advantage from local external economies (Knappe 2003, Morris 2006). It has to be mentioned that apart from the three type of the clusters mentioned above there are other industrial conglomerates that exist in other parts of the world for example, industrial clusters in resource based industries such as agroindustry, the petrochemical and metallurgical industries, paper and pulp industries etc. The agroindustry firms are in most cases privatized and they are national or transnational private corporations while industries such as petrochemical and metallurgical industries are often dominated by chapter 9 state institutions (South African State Owned Entities) or parastatals (Altenburg and Meyer-Stamer 1999). Some

a. Governance

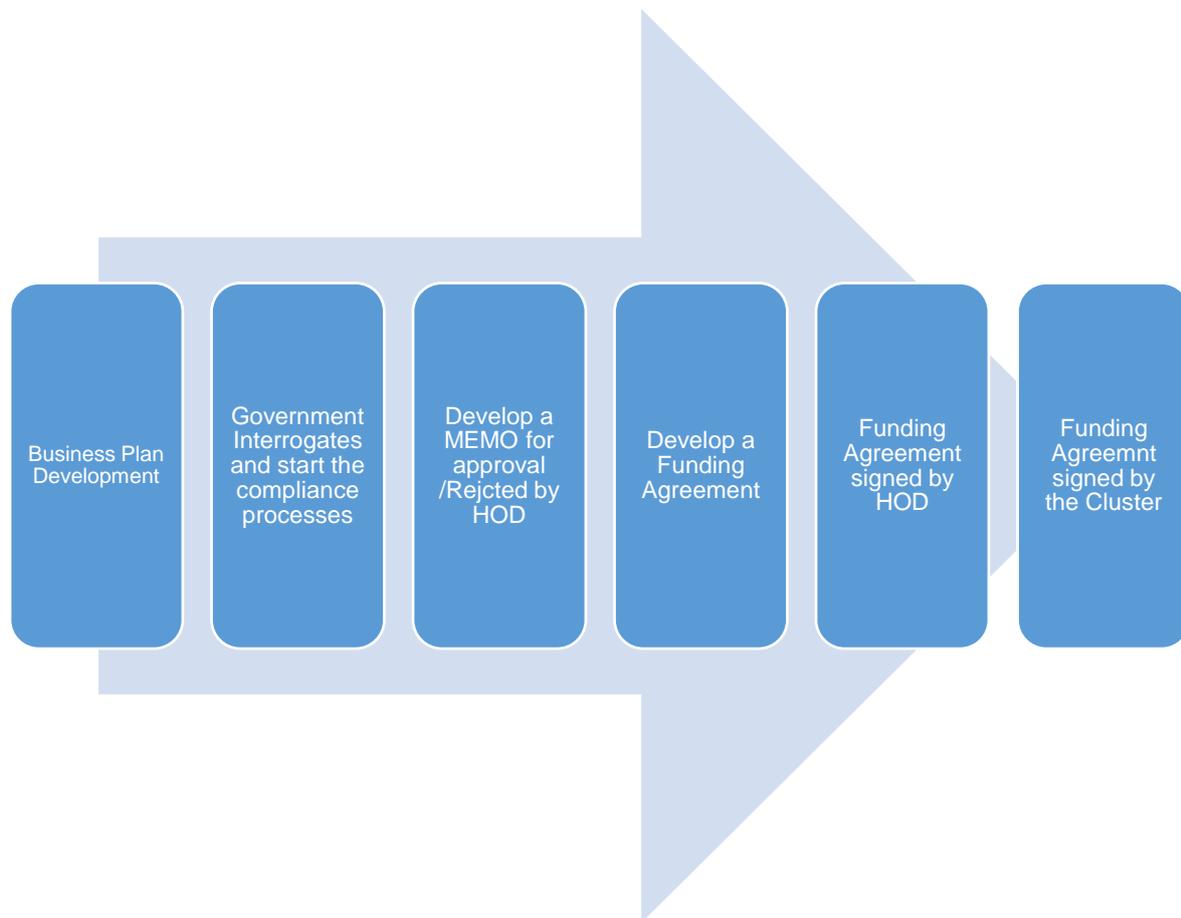
The study revealed that governance is still the heartbeat that leads to industrial clusters to fail. The outcry is that government has a long list of compliance issues and processes that need to be followed for a cluster to sustain. Most of the industrial captains came out strongly criticising the government for not extending a helping hand. Leadership in most of the clusters was seen as a challenge. The issues of attracting requisite skills to steer the industrial clusters is also a teething problem. Some industries Project Managers were not conversant with the regulations such as King IV Report; Public Finance Management Act 1 of 1999; Supply Chain Management; Central Supplier Data Base; South African Revenue Services and Companies Act 71 of 2008. Altenburg (1999) strongly contested that industrial cluster policies should be developed to create a conducive environment for industrial clusters to thrive. The Industrial Clusters should create a communication platform that will eradicate unnecessary bureaucratic processes and streamline reporting lines (Altenburg and Meyer-Stamer 1999).

The issues of corporate governance and reporting were raised as areas of concern. The porosity of clusters was contesting that government has to set rules of engagement regarding how government resources should be monitored and expended. The guiding memorandum of agreement that is signed between the government and the industrial cluster is often not taken into a considerable high note. The reason for this is the level of enforcement. Some board members of industrial clusters are not well vest with their roles and responsibilities, and all their functions are left with the general manager of the cluster (Barnes 2003). The outcomes of these challenges are the poorly run clusters with no monitoring and evaluation programmes to safeguard government resources. It was also discovered that some industrial clusters have failed to submit financial statements and reports to their respective funders which posed a threat for receiving further funding.

b. Government Funding and Support

The process of accessing government funding is tedious, and therefore the current common understanding between clusters and government should be revised to speed up the process.

Figure 6.4: The process followed by KZN government for funding clusters



Source: Author

Figure 6.4 indicates that funding process varies with the submission and the business plan submitted by each cluster to the government. The processes and the lead times are not the same. This has confused government assistance and inconsistencies (Barnes 2003). Some industrial clusters cited that governance becomes a challenge when there are uncertainties about the continuous support from the government. The inconsistencies in the provision of resources forced industrial clusters to operate from hand to mouth as there are no guarantees that funding will be available for the outer years. The private-public governance must be encouraged in a bid to harmonise the existing gap between government and private sector (Humphrey and Schmitz 2000). The issue of policy formulation and the provisions of guidelines on how the industry should respond to the requirements set by the government are important in resolving the teething challenges faced by industrial clusters. It is critical to note that the internal and external administrative challenges also expose the industrial clusters to global competition.

The industry cluster felt that there are no platforms created to raise eminent industry issues. The sharing of industrial cluster issues with other industry clusters will enable collaboration, enhanced working relations, better the performance and service delivery (Mytelka and Farinelli 2000, Newlands 2003, Morris and Barnes 2007). The DTI has recently established industrial symposiums that are focusing on industrial parks, special economic zones, and industrial clusters. The industrial symposiums are looking at the progress made relating to the establishment of industrial clusters, special economic zones, and industrial parks. As the national government has ignited the process of engagement, it is still prudent for the provincial or regional government to create platforms for engagement between industry clusters (Schmitz 1999). The Benchmarking and Manufacturing Analysts are only focusing on those clusters where they receive funding to mentor and implement programmes (Barnes 2003).

c. Other challenges faced by industrial clusters

The industrial clusters pointed out that the issue of government establishing industrial clusters is posing a challenge. This emanates from the fact that at some point government is not aware of the challenges of the industries and therefore imposing the industrial clustering concept as an everlasting solution creates chaos within the value chains of various sectors. It has been asserted that in a global environment government should focus on macroeconomic policies that are geared more towards exports as clusters are holding a great potential in attracting new investments (Porter 2000, Barnes 2003). The study revealed that most of the clusters do not have monitoring mechanisms in place that will ensure that the industrial cluster performs their obligatory duties enshrined in the memorandum of incorporation and approved business plan. Some of the examples cited were as follows:

- i. Poor meeting attendance some of the board members;
- ii. No incentives for meeting attendance which make meetings not compulsory;
- iii. Misalignment in policies and strategies;
- iv. Poor compliance with policies;
- v. Poor institutional framework;
- vi. Mismanagement of funds, and
- vii. Conflict of interest for some of the board members who have vested interest.

The following are industry related challenges or bottlenecks within the value chain revealed by the study:

- i. The market is dominated by large multinationals who largely occupy the space and unless you join them (monopolising the market);
- ii. The opportunity is compromised if there are poor working relations with the organisations monopolising the industry, and
- iii. The fragmented and isolated industry tends to face stiff competition if the industry fails to act in united voices and impetus.

6.4. Objective Number Four: The development of the industrial clustering framework that will assist EDTEA in supporting local clusters

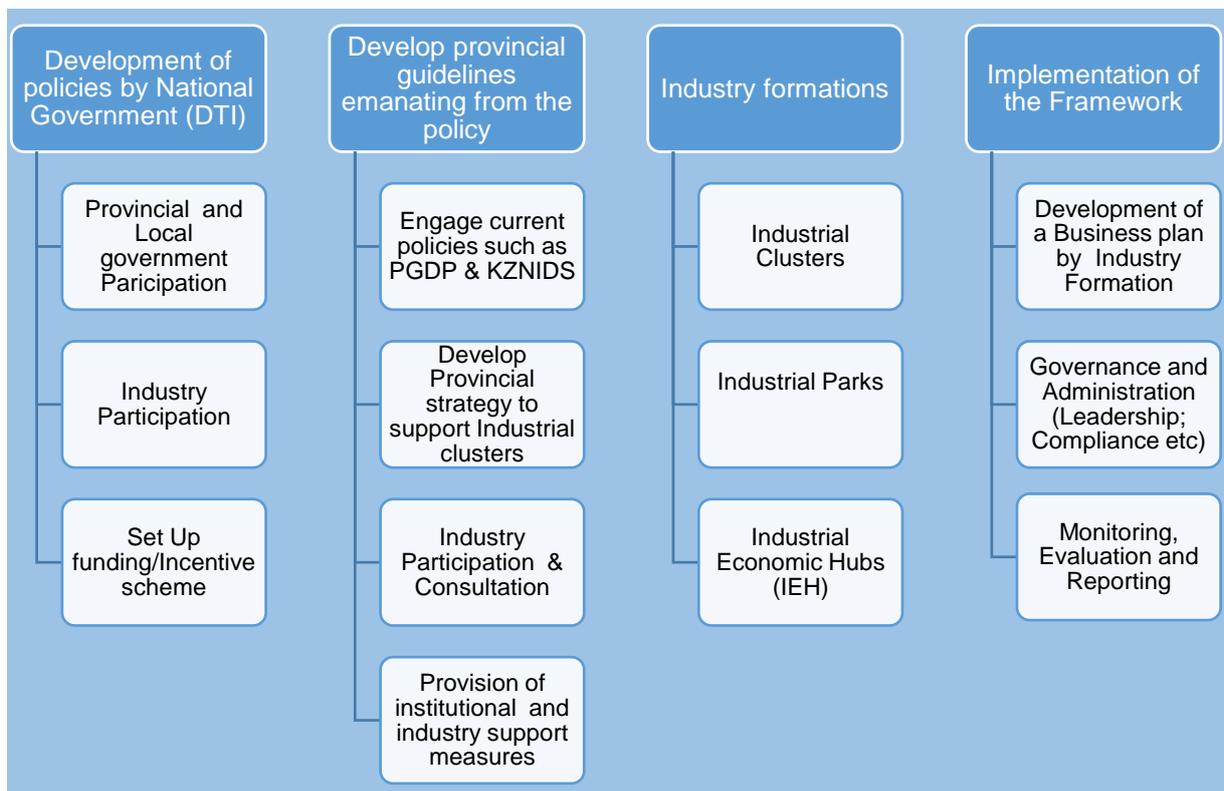
The study interrogated five industrial clusters supported by the Department of Economic Development, Tourism and Environmental Affairs which are Textile and Clothing Cluster; Fashion Council Cluster; Furniture Cluster; Maritime Cluster and Music Cluster. It was evident from the findings that there are achievements and challenges that are faced by various clusters. Therefore, the critical issues have been tackled in the first three objectives and this objective focuses on developing a framework that the EDTEA and KZN Industrial clusters should adopt to circumvent the failures and misunderstanding created by the current arrangement.

In chapter two and three, it was experienced that industrial clusters across the globe have commonalities in how they are established, the challenges they have encountered and how they have enhanced the competitiveness of each sector. The scholarly views and the study (research) are in agreement that the government has a significant role to play in ensuring that industries are propelled in achieving the desired goals. In this regard, the policy imperatives are key fundamentals for industrialisation and enhanced the competitiveness of industries (Altenburg and Meyer-Stamer 1999, Kaplinsky and Morris 1999, Morris and Barnes 2007, László 2014). For example, if policies such as National Industrial Policy Framework; Growth Employment and Redistribution; Accelerated Shared Growth Initiative of South Africa; New Growth Path; National Development Plan and many other ancillary strategies and position papers were not developed and implemented, South African industries or firms were going to struggle to compete with the outside world.

Therefore deregulation of trade ensured that South African industries also benefit in respect of trading with other countries and thereby earning foreign currencies (Porter 2000, Weiss 2002, Morris and Barnes 2007, Schwab and Sala-i-Martin 2010). Figure 6.5 below depicts a framework which was developed based on the findings from the study, and there are gaps that need to be filled for the industrial clusters to grow and succeed. The proposed Framework has four elements:

- i. Policy directive;
- ii. Departmental guidelines emanating from the policy;
- iii. Cluster formations (Industry Associations/Industrial Parks), and
- iv. Implementation of a Framework.

Figure 6.5: Proposed Industrial Clustering Framework



Source: Author

a. Policy Directives

The study proposes that the DTI should lead the process of developing a policy that will ensure that industrial clusters are guided and supported in a bid to enhance the competitiveness of their industries.

The underlying principle in respect of the current arrangement is that there is no policy developed regarding the establishment and supporting of the industrial clusters (Altenburg and Meyer-Stamer 1999, Guerrieri and Pietrobelli 2004, Morris and Barnes 2007). The clusters managers and industry captains felt that the government developed some policy imperatives and strategies that are designed to assist the Special Economic Zones, Industrial Parks, Export Councils, Joint Action Groups and Customised Sector Programmes. They have registered concerns that the reasons for industrial clusters to fail are based on the fact that government has adopted the industrial clustering concept from UNIDO without tailoring the concept to suit the local environment (Barnes, Bessant et al. 2001, Barnes 2003).

There are industrial clusters that are yet to understand the process of accessing government support unlike other industry formations (Morris and Barnes 2007). For example, the Music Cluster and Fashion Council have encountered financial constraints regarding financial resource allocations since the government has recently instituted austerity measures as a result of the economic meltdown. In this instance, industrial clusters were the first casualties of the budget cuts. The government has to engage various industry stakeholders in the cluster formations in a bid to identify the gaps and how the industrial clusters could be included in the policy formulation (Barnes 2003). This process will also assist the government in setting aside resources for the industrial cluster as they are proven to have a significant role in contributing to the economic growth of the country and the regions in particular (Ceglie and Dini 1999, Porter 2000, Morris and Barnes 2007).

b. Develop provincial guidelines emanating from the national policy

The development of the provincial guidelines is a fundamental step towards harmonising the fragmented processes that are prevailing in supporting the industrial clusters. The Department of Economic Development, Tourism, and Environmental Affairs had in the past supported the priority sectors through the industrial clusters. The existence of these clusters is based on the Industrial Policy Action Plan (IPAP) which is reviewed after three years based on the performance of the priority sectors. In this instance, the KZN province is supporting five industrial clusters (Fashion Cluster, Textile and Clothing Cluster, Furniture Cluster, Music Cluster and Maritime Cluster).

These clusters have their individually designed processes in engaging with government in accessing support (UNCTAD 1998, Morris and Barnes 2007, Udovik 2014). Therefore, for clusters to thrive, it is of importance for the KZN province to review and assess the existing strategies and policies to come up with guidelines and programmes that will be adopted by the provincial government and relevant stakeholders to assist the industrial clusters. The consultative process through all industry structures is critical for the industries to be competitive. These structures include KZN Economic Council; Business Chambers, Industrial Clusters; Benchmarking Firms; Municipalities and Industry Associations.

The provision of industry support measures is a critical leg in the proposed framework wherein all stakeholders will have to commit to the process to formalise the clusters within the KZN province. The following are the proposed industry support measures (Porter 2000, Morris and Barnes 2007, Schwab and Sala-i-Martin 2010):

- i. Serviced Industrial Land;
- ii. Infrastructure Development;
- iii. Negotiated Rates (Water and Electricity);
- iv. Research, Development, Provision of Advanced Technological Facilities to support Innovation;
- v. Skills Development Programme;
- vi. Funding, and
- vii. Incubation facilities to support business linkages and integration.

c. Industry Formations

The DTI has numerous structures or vehicles that are used to implement various programmes. The policy changes in the Industrial Development Zones to **Special Economic Zones (SEZ)** were critical for government and prospective investors to grow the country's investment profile. These changes also contribute to the economic growth of the country and thereby providing the much-needed jobs (Farole and Akinci 2011). In KZN province there are two special economic zones that were approved by the national government to deliver accordingly. There is Dube Trade Port SEZ based in La Mercy (King Shaka International Airport) at the North of Durban and Richards Bay SEZ which is based at Richard's Bay upper north of Zululand.

The special economic zones are embraced in most developed and developing countries as key drivers to attract investments. The following are the overarching objectives of the special economic zones (Jauch 2002, Farole and Akinci 2011):

- i. To create the enabling environment that is fully competitive for investors within a designated geographical location;
- ii. To attract foreign investments, industries and create new jobs;
- iii. To provide incentive packages for investors ranging from tax holiday schemes, duty-free for exports, and exemptions from certain labour laws, and
- iv. Provision of fenced and secured land and infrastructure.

Even though the SEZs have a lot of incentives to offer for new investments, the critical issue is the spatial geographic disparity and the creation of backward and forward linkages (Altenburg and Meyer-Stamer 1999). The SEZ licenses are only granted to the highly industrialised locations (Farole and Akinci 2011). This created a void regarding growing the economies of other regions which have no high density regarding the firms or industries. It was for these reasons that the Department of Economic, Tourism and Environmental Affairs had initiated the process of establishing the **Industrial Economic Hubs (IEH)** which are sectorial based and they are all in eleven districts of the KZN province. The Industrial Economic Hubs initiative is one of the five strategic pillars of the EDTEA. The IEHs are strategically located to enhance competitiveness through the managed resources such as infrastructure, water, and electricity, funding, logistics, provision of advanced technologies and innovation. The Industrial Economic Hubs also have strong resemblance and connotation with the Industrial Parks. Most of the elements of the industrial economic hubs are found in the industrial park.

The following are the objectives of the Industrial Economic Hubs/Industrial Parks (Pickles 1991, Porter 2000, Obstfeld 2003, Guerrieri and Pietrobelli 2004, Marshall 2009):

- i. To enhance competitiveness of the manufacturing firms or sectors;
- ii. To propagate the industrialisation throughout the KZN province;
- iii. To attract local and foreign direct investments in specific sectors;
- iv. To forge linkages with the SEZs nodes and other industrial clusters;

- v. To promote economic growth through exports, job creation, and poverty reduction;
- vi. To provide land and infrastructure, and
- vii. To collaborate through the use of advanced technologies, innovation and skills development.

The study also revealed that the Department of Economic Development Tourism and Environmental Affairs should state whether they will be doing away with the support of industrial clusters since the above objectives of the Industrial Economic Hubs are similar to those of the industrial clusters. The formation of **industrial clusters** is critical for the government to intervene by providing support. The institutionalisation of industrial clusters must not be initiated by the government, but the industry should take the initiative (Morris and Barnes 2007). Therefore, the industrial cluster will have their aspirations and objectives that bind them together to achieve the desired goals. The following are key characteristics of the industrial clusters as they were thoroughly dissected in chapter two and three (Porter 1998, Ozgen 2011):

- i. Knowledge spillover;
- ii. Improved market access;
- iii. A specialised and skilled labour pool;
- iv. Infrastructure;
- v. The specialised labour input, and
- vi. Enhanced access to specialised information on technologies and markets.

The Department of Economic Development, Tourism and Environmental Affairs developed a strategic document for setting up sector development as a component focusing on industrial competitiveness and the ability to impact on economic growth and thereby creating much needed jobs. The following are underlying issues for industry development in order to enhance competitiveness of the identified sectors (Clothing & Textile; Tooling; Automotive; Maritime; Music Industry; Fashion Design; Information Communication Technology; and Wood and Pulp) (KZNIDS 2005):

- ✓ At **industry level**, the purpose is to unlock economic potentials of the identified sectors by providing support to those that have growth potential such as clothing and textile, automotive sector, maritime, fashion and music. Those that are struggling to are also supported.
- ✓ At **infrastructure level**, the department strive to level the playing fields by setting aside resources for infrastructure upgrade and expansion through the services of Ithala Development Corporation and Growth Fund. The Dube Trade Port is declared as a special economic zone therefore the business opportunities exist in the **SEZ** location are for companies and conglomerate that are exporting their commodities and to the rest of the world.
- ✓ The KwaZulu-Natal government put all its efforts in **developing policies that are conducive** in attracting investments and contributing to the economic growth of the province.
- ✓ The design capacity also plays an integral part in broadening the economic development scope and participation of industries.

The overall purpose of government is to develop proper strategies and thereby identifying strategic interventions (Short, Medium and Long-Term) that are positioning the province to act as a catalytic for economic growth in the country.

It is very evident that the industrial clusters have no specific support designed for cluster formations unlike the special economic zones and industrial economic hubs/industrial parks. It is for this reason that the DTI established the process of developing guidelines for supporting the industrial clusters. The study revealed that such initiative would enhance confidence in most industrial clusters to propel and be competitive with the rest of the world.

d. Implementation of a framework

The study revealed that industrial clustering concept is a critical tool industrialising the KZN province. Its importance has been evidence in the revival of the textile and clothing industry especially on the leg of fashion design. There has been the emergence of the fashion designers across the country. This is due to fashion, tastes, and preferences. Most South Africans prefer individually designed garments with famous designer names.

Therefore, the **business plans** will be tailor-made for each industry cluster in accordance with its specific sector. In this instance, KZN Fashion Cluster and Textile and Clothing Cluster will have their business plans crafted differently based on aspirations and objectives of their members. It has to be underscored that the textile and clothing cluster deals with mass production and the fashion cluster focuses on individually designed garments for a specific customer (Altenburg and Meyer-Stamer 1999, Barnes 2003). The elements contained in the business plan are critical to achieve the aspirations of its members.

The study revealed that some clusters failed to produce bankable business plans with no clear financials. It is therefore in the best interest of the clusters to ensure that the crafted business plans are as comprehensive as possible to give prospective investors (government and private sector) and members' confidence that the cluster will thrive beyond the financial intervention (Barnes, Bessant et al. 2001). Some cluster members revealed that benchmarking exercise among cluster formations is critical to ensure that a solid business plan is crafted (Enright 2003, Morris and Barnes 2007). The issue of **governance and administration** was emphasised during the study. The study revealed that most clusters under review were not properly managed due to the lack of stewardship and human capacity (Barnes 2003, Schwab and Sala-i-Martin 2010). The underlying factor is that the general managers/CEOs and their boards are not well capacitated regarding the understanding, operationalization and governance of their respective industrial clusters. This has led to some cluster captains being released from their duties and other clusters shutting down. The recent introduction of Kings IV Report has added more responsibilities to some ailing clusters. Reporting and taking more responsibilities by the board and its executive staff members will need clusters to reconsider more carefully when appointing the board and its executives. The government has also added salt into the wounded clusters by introducing stringent reporting systems and compliance such as the Central Supplier Database (CSD) which contains all due processes that need to be followed when accessing government support. The funded clusters have been accustomed to the reporting requirements and compliance. The clusters submit quarterly and annual reports to their respective funders.

This is part of **monitoring and evaluation** and ensuring that the allocated resources are used appropriately. Some cluster organisations cited challenges of the varying reporting formats which are requested by funders (government and private sector). The study depicted that funders should sit together and devise standard format for reporting just like public entities (Special Economic Zones/Industrial Parks) in a bid to comply and appropriate funds accordingly. The proposed framework will, therefore, assist many industrial clusters to find common ground with the funders (government and private sector) regarding monitoring, evaluation and reporting.

6.5. Conclusion

Chapter six presented the discussions of the study. What came strongly from the study were the issues of industrialisation, competitiveness, challenges and the development of a framework. The significant contribution by industrial clusters in industrialising the KZN province is evident from the emergence of the KZN Fashion Cluster, KZN Music Cluster, and eThekweni Maritime Cluster. The purpose of mentioning these three clusters was to highlight their significant contribution regarding unveiling new job opportunities, untapped careers, and business opportunities.

For example, the KZN Music Cluster recently trained thirty (30) artists in publishing and artists' management. Most of these students are employed, and some have started their businesses. Lastly, in the midst of the achievements, there are industrial clusters that are struggling to sustain themselves. Unfortunately, the government cannot intervene and take over ailing clusters (Morris and Barnes 2007, Morris and Einhorn 2008). The industrial cluster should ensure that clusters sustain and become competitive against the rest of the world (Morris and Einhorn 2008). The following chapter presents the recommendations and conclusion of the study. The recommendations are based on the findings of the study which focused on the mixed method, and the triangulation was interrogated in a bid to yield the intended results.

Chapter Seven

Recommendations and Conclusion

7. Introduction

The study focused on five funded industrial clusters by the provincial and local government of KwaZulu-Natal. The five clusters include Furniture Cluster, KZN Music Cluster, Maritime Cluster, KZN Textile and Clothing Cluster and KZN Fashion Council. The study used the mixed method in ensuring there were no gaps in the data collected from the quantitative instrument and the interviews were conducted with the selected sample using the qualitative method. There were more than 150 respondents who returned their questionnaires from the population of 300 members registered in the respective clusters (Sekaran 1983, Stoker 1985). There were 20 questions which were based on the research objectives. The participants were all from the five supported industrial clusters. The researcher used ten (10) participants who are industry captains and government administrators, and they are all hands on in the growth and development of the industrial clusters. The triangulation method was used in ensuring that the data collected using the quantitative and qualitative methods are consolidated. The advantage of using this research design was that it enabled the researcher to equate and authenticate the outcomes (Creswell and Clark 2007, Creswell 2013). The researcher used this research design in collecting and analysing the data of the industrial clusters. The process began with chapter one which provided the study background, the research objectives, and questions, problem statements, the deliberations on the theoretical framework and the research methodology with findings and discussions. This chapter will, therefore, present the recommendations, conclusion and further interrogate the research possibilities.

7.1. The research conclusion

The research conclusion summarises the four study objectives which were deliberated in all chapters:

7.1.1. Research objective one: The relevance of Industrial clustering in industrialising the KZN province

The discussions were based on the theoretical views which posed various arguments relating to the subject matter. The research under review of industrial clustering has a significant contribution towards industrialising the KZN province and did not go unnoticed. The study revealed that even before the adoption of the industrial clustering concepts by the current dispensation there were industrial parks all over KZN in areas such as KwaSithebe, eZakheni and Madadeni. This was modelled with the Silicon Valley in the USA where companies/firms collaborated to be efficient in dealing with shorter lead times, maximisation of the economies of scale and creation of partnerships (Porter 2000). The study also revealed that the industrial clustering concept had a major role to play in areas where industrialisation is still a challenge. The idea of clustering related industries in a geographical area either vertically or horizontally (Morris and Barnes 2007) in a bid to enhance the competitiveness of firms/industries and thereby increasing the investment profiles has been evident and pioneered not only by smokestack industries but also service industries such as NETCARE Hospitals. For example, the hospital could form an industry cluster with the suppliers of medicines/pharmacies, catering companies, cleaning companies and resident doctors. Therefore a cluster concept is being implemented by many industries unaware of the industrial clustering concept (formation). The government also developed the New Growth Path (2010) which was geared towards robust industrialisation and it focused on five (5) job drivers in a bid to enhance competitiveness infrastructure Development;

- ✓ Main Economic Sectors (including agriculture, textile and clothing, automotive sector, creative industries, energy, pharmaceuticals, wood and forest, maritime and more);
- ✓ Seizing the new economic potential;
- ✓ Investing in Social capital and public services, and
- ✓ Spatial Development.

The South African government remained resilient in forging working relations with all stakeholders and social partners such as the union federations, businesses and civil society in creating decent work, reducing inequality and dealing with poverty.

The provision of ad hoc support to industrial clusters was indicative of government's commitment. Even though the study revealed that such support was not enough, but it was a step towards a right direction. The establishment of the industrial economic hubs by KZN province was also applauded by many businesses, but a worrying factor was a systematic approach wherein industrial clusters were going to suffer another setback since there will be a shift of focus to industrial economic hubs. The DTI recently developed guidelines for supporting industrial clusters was also recognised as a positive initiative by the government in enhancing the global competitiveness of the industrial clusters. This was also a significant pronouncement by the government in showing commitment to support industrialisation. The support by KZN province to industrial clusters was also commended by industries. The challenges that were raised by industries relate to limited and inconsistent funding and support, stiff competition with the eastern and western block, innovation and technological advancement and high cost of capital (Barnes, Bessant et al. 2001, Markus 2008, Morris and Einhorn 2008). But not all was lost since there were many positives that were drawn from the study. The unfortunate circumstance is that industrialisation requires collaboration between government, the private sector, and civil society to mobilise adequate resource for the attainment of the desired goals. This was heavily propagated in the quantitative and qualitative approach where themes such as collaboration, networking came very strong. The exploratory factors further indicated that 96.7% of the respondents agree or strongly agree that industrial clustering promotes new entrants to benefit from the large firms, 98.0% indicated that industries who produce related goods or services benefit if they are located within spatial proximity, 98.7% indicated that industrial clustering encourages private and public partnership and 98.7% indicated that industrial clustering encourages knowledge sharing.

7.1.2. Research Objective two: The relationship between Industrial clustering and organisational competitiveness

The second objective was investigating the in-depth analysis of the relationship between industrial clustering and organisational competitiveness. The study revealed that organisational competitiveness is a very intense subject matter as there were some elements that make an organisation to be competitive. The study also focused on five supported industrial clusters by KZN Province. Each sector/industry cluster has its business protocol, issues, challenges, and programmes.

It was evident from the study that for each cluster to thrive and be competitive, the government has to provide continuous support in respect of funding and develop policies that are geared towards levelling the playing fields (Barnes, Bessant et al. 2001, Morris and Barnes 2007). The issue of establishing and initiating industrial clusters was deliberated at large as industries warned the government not to initiate (Morris and Barnes 2007, Markus 2008). The industry further applauded the government for developing policies such as National Industrial Policy Framework, Industrial Policy Action Plan, New Growth Path, National Development Plan and Provincial Growth and Development Plan. These policies provided impetus and hope to industries in a bid to enhance the competitiveness of their respective sectors. The study also revealed that the industries that joined industrial clusters have benefited (UNCTAD 1998, Ceglie and Dini 1999, Porter 2000, Morris and Barnes 2007, Markus 2008, Morris and Einhorn 2008, Schwab and Sala-i-Martin 2010, Udovik 2014) immensely in relation to the exploratory factors and the themes developed during the qualitative approach. Both were methods were in agreement that industries have unlimited and enormous benefits when joining the cluster.

7.1.3. Research Objective three: The reasons for the downfall of the industrial clusters

The challenges of the industrial clusters are mostly common. The issue of the blueprint on how industrial cluster should be established or initiated came strongly in the study (Morris and Barnes 2007). The study also highlighted a void (platform) that exist in sharing information amongst the cluster members as one of the common challenges faced by many clusters especially those that are funded by government.

The following were some of the challenges flagged by industrial clusters:

Lack of consistency in funding industrial clusters – The clusters funded by government voiced their frustrations that government has no funding policy in place which make it difficult to become competitive with the rest of the world. Some of the cluster offices become closed in the middle of the year if government has delayed in transferring resources in time. Further, the allocated resources are not shared equally amongst cluster members. KUMISA and Fashion Council are adamant that their offices are in danger in propelling the aspirations of their members since there's no formal funding process.

Lack of formal reporting systems that are designed to assist industrial clusters are not in place. There are sector specialists that deal with different clusters. Each Project Manager develops and populates a different reporting system that is not similar to other managers. When Auditor General and Internal Control from the Department conduct audit, the cluster is accused of using wrong format of which there was none provided. The study discovered that the issues of formal report and streamlining of all documents ranging from business plans, quarterly reports and annual report should be designed as matter of urgency.

Lack of proper governance and administration was also identified as hindrance in accessing government confidence in providing continuous support. Some clusters are not used to be paper pushers. Government compliance and number of documentation to be filled were seen as a tedious in accelerating growth and competitiveness of various clusters. Some of the cluster administrators are not well conversant with the proper administration and compliance in terms of Public Finance Management Act, Supply Chain Management; Preferential Procurement Policy Framework Act and Kings IV Reporting (Corporate Governance). These compliance processes and procedures are a deterrent of industrial clusters to achieve clean governance and confidence from government. If these are not met government tend to be reluctant to provide support because of public funds and lack of accountability is not tolerable.

Lack of attracting good leadership to sit in boards has been an outcry by many industrial cluster more especially those that are funded by government. The outcry of the industrial clusters was registered in many platforms where the leadership in terms of the board was challenged. In the first place some board members attested to the fact that they had no idea of the industrial clustering concepts until it was introduced to them and when becoming board members. In this instance, most industrial clusters under review are in the lookout for credible, well experienced and understanding managers in respect of the industrial clustering concept. This is also the case in attracting well experienced general managers to steer the ship because of the unattractive salary packages. It cannot be overemphasised that low salary packages attract inexperienced managers with no background understanding of the industrial clustering concept.

The mitigating factors in this regard are supposed to be a concerted effort between private sector and government in providing enough resources to deserving clusters.

The larger the cluster formation the more competition is created amongst the members. In Porter's (2000), the five forces model, new entrants tend to create distortion in the market and thereby creating unnecessary competition. This notion was strongly propagated by many members who were interviewed and responded into the research questions. Members in the industry value chain have registered concerns that new entrants into the industry cluster tend to bring burden to the existing members. This has been argued that in the same vain new entrants brings fresh ideas, innovations and creativity and value add in competing with the rest of the world.

No repository of information regarding the local industrial. There is a huge gap in terms of the industry research and development. The industrial clusters rely on government to conduct research and develop strategies for the industries. During the study, it was KUMISA that have recently conducted industry database across the music industry value chain. The limited resources available for the support of industrial clusters makes it difficult to set aside such resources for research other than operational budget. The DTI has been directly involved in intervening where there are market failures. The mandate of government is to develop industry policies and strategies that are geared towards growing the economy and contributing to towards the GDP of the country and thereby creating the much needed jobs.

Lack of monitoring and evaluation of clusters. For example, poor performing clusters are not detected early and potential irrelevant and outdated mandate, need a rethink and policy shift. This point has been haunting the industrial for many years. This calls for industry introspection and government taking a proactive approach in ensuring that the mandate of the industrial clusters is still relevant in the modern eras of the Fourth Industrial Revolution. In the triangulation, participants indicated that monitoring and evaluation of industrial clusters will assist in identifying the early warning signs of those ailing clusters and to develop immediate solutions.

7.1.4. Research Objective four: The development of the Industrial Clustering Framework

The framework was developed based on the analysis and discussions of the results based on the three study objectives. The framework is part of the recommendations of the study.

7.2. Study Recommendations

The recommendations are based on the study findings hence this section also provides recommendations for further research.

7.2.1. Recommendations for industrial clustering as a tool to enhance competitiveness of the economy of KZN province

The study emphasised the importance of industrial clustering as one of the concepts to enhance the competitiveness of the KZN Industries. The adoption of the industrial clustering concept from UNIDO was a great stride by the South African government, but there were policy imperatives that had to be addressed. The industrial clusters that were under review recommended that government must be consistent in providing support to industrial clusters. The industry further recommended that there has to be a dedicated fund and support unit within the government that will ensure good governance, continuous assistance and support to industrial clusters.

The industrial clustering framework proposed and recommended will assist government to plan appropriately and also have a window of opportunity to engage with the industries.

The following are recommendations based on the study findings:

- a. Government and industries should come together to decide on the two concepts of industrial clustering and industrial economic hubs. The two concepts are confusing the industries and therefore recommend that government should not duplicate programmes but should augment and consolidate activities and thereby maximize the limited resources;
- b. The institutionalisation of industrial clusters must not be initiated by the government but the industry should take the initiative (Morris and Barnes 2007). Therefore, the industrial cluster will have their aspirations and objectives that bind them together in order achieve the desired goals.

This will circumvent the industrial clusters to fail (Kaplinsky 2000, Maggioni 2004, Morris and Barnes 2007);

- c. The industrial clusters should operate as formal and recognised entities by government for the sake of continuity and consistency. This emanates from the study that industrial clusters have a significant and meaningful contribution towards industrialization and the creation of sustainable jobs (Pickles 1991, Schmitz and Nadvi 1999, Porter 2000, Ozgen 2011).

7.3. Recommendations for further research

The study provided a clear picture on the current status of the industrial clusters supported by KZN province. However there were number of challenges identified which require immediate intervention. The recommendation for further study relates to the relationship between the industrial clusters, industrial economic hubs and industrial parks and the support thereof. This is attributed to the contributions made by participants during the study. The study revealed that the industrial clusters are not getting enough support as compared to their counterparts who are running the industrial parks or industrial economic hubs.

The reason for not including the Special Economic Zones (SEZ) for further study is that they are already supported by government and there is a policy in place. The benefits of industries located within the special economic zones are enormous.

7.4. Delimitation of the study

- a. The study focused on the industrial clustering as a tool to enhance the competitiveness of the economy of the KwaZulu-Natal Province, South Africa. The study focused on five industrial clusters that are currently funded by KZN Department of Economic Development, Tourism and Environmental Affairs. Not all industrial clusters in the KZN province were included such as the Automotive Cluster and Chemical and Plastics. The study was going to be too long and not focusing on the specifics.
- b. The researcher used Michael Porter (1990)'s Diamond Model as part of the theoretical framework for the study. There are many scholars who supported this view and their works were also included in a bid to support the research study.

- c. The research study further used the South African population which are industrial clusters supported by KZN province.
- d. The population comprised of industry captains and government officials who have knowledge and experience in developing and supporting the industrial clusters. This assisted the researcher in gathering the information and the data required for the study.

7.5. Limitation of the study

- a. The study focused on the industrial clusters that are based in KwaZulu-Natal, South Africa and therefore the study cannot be attributed to the industrial clusters from other countries which have different trade and industry policies;
- b. The interviews of the industry captains took too long than anticipated due to the busy schedules and the some of the set questions were overtaken by events;
- c. Some industrial clusters were facing challenges of co-ordination which made it difficult in reaching out to some members;
- d. Financial resources were a challenge in terms of travelling to seek information, and
- e. The test retest was not done due to limited time and resources.

7.6. Conclusion

The industrial clustering concept has proven to have a significant contribution in industrialising the KZN economy. This is evident from the study that the five supported industrial clusters by KZN Department of Economic Development, Tourism and Environmental Affairs have displayed tremendous achievements in the midst of the eminent challenges. These achievements could be attributed to the creation of sustainable jobs, increased number membership in the respective industrial clusters; awareness by government (DTI) in setting up guidelines to support industrial clusters; the sustained number of clusters in the midst of challenges; a greater understanding of some industries about the industrial clustering concept; most industries who are members of the respective clusters are being competitive than working in silos; increased productivity and revenue realized and the economies of scale are maximized.

In conclusion government and private sector have a significant role to play in bringing investor confidence and ensuring that industrialization and competitiveness is realized through the industrial clustering concept. This will be realized through the development of policies and strategies that are geared towards supporting the industrial clustering concept.

References

Adcock, R. (2001). *Measurement validity: A shared standard for qualitative and quantitative research*. American Political Science Association, Cambridge University Press.

African National Congress (ANC, (1994). *Reconstruction and development programme: A policy framework* Johannesburg: Umanyano Publication.

Africa Growth and Opportunity Act, 2000. Pretoria. Government Printers

Albu, M. (1997). "Technological learning and innovation in industrial clusters in the South." *Electronic Working Paper Series No.7*. UK

Altenburg, T. and J. Meyer-Stamer (1999). "How to promote clusters: policy experiences from Latin America." *World Development* 27(9): 1693-1713.

Ambert, C. (2003). "Promoting the culture sector through job creation and small enterprise development in SADC countries: The music industry." *International Labour Office*.

ASGISA (Accelerated Shared Growth Initiative) (2005): Pretoria. Government Printers.

Baldwin, R. (2006). "Globalisation: the great unbundling (s)." *Economic Council of Finland* 20(3): 5-47.

Barlas, Y. (1996). "Formal aspects of model validity." *12. Issue 3*, 183-210

Bartlett, J. E., Kotrlik, J. W. & Higgins, C. (2001). *Organizational research: Determining appropriate sample size for survey research*. *Information Technology, Learning, and Performance Journal*, 19(1) 43-50.

Barnes, J., et al. (2001). "Developing manufacturing competitiveness within South African industry: the role of middle management." *Technovation* 21(5): 293-309.

Barnes, M. M. a. J. (2003). "Policy Lessons in organising vertical and horizontal cooperation's in value chains and industrial clusters." Paper presented at the Conference in Modena, Italy.

Basant, R. (2002). "Knowledge flows and industrial clusters: an analytical review of literature." *East West Centre Working Papers. Economic Series_40*

Bhattacharyya, D.K. (2006). *Research Methods*. New Delhi: Excel Books.

Belderbos, R. and M. Carree (2002). "The location of Japanese investments in China: Agglomeration effects, keiretsu, and firm heterogeneity." *Journal of the Japanese and international economies* **16**(2): 194-211.

Benchmarking and Manufacturing Analysts. (2015). *KwaZulu-Natal Clothing & Textile Cluster Report*. Durban

Bessant, J., et al. (2003). "Developing capability through learning networks." *International Journal of Technology Management & Sustainable Development* **2**(1): 19-38.

Bezuidenhout, R., et al. (2014). "Research Matters." *Quantitative Data analysis*: 228-251.

Brannick, T. and Roche, W. (2007). *Business Research Methods*. Mumbai: Jaico Publishing House.

Bumgardner, M., et al. (2007). "Wood use by Ohio's Amish furniture cluster." *Forestry Products Journal*. Vol. 57. No 12

Burt, D. N. and M. F. Doyle (1993). *The American Keiretsu: A strategic weapon for global competitiveness*, Irwin Professional Pub.

Caniëls, M. C. and H. A. Romijn (2003). "Agglomeration advantages and capability building in industrial clusters: the missing link." *Journal of development studies* **39**(3): 129-154.

Ceglie, G. and M. Dini (1999). *SME cluster and network development in developing countries: the experience of UNIDO, UNIDO Vienna*.

Chapain, C., et al. (2013). *Understanding creative regions: Bridging the gap between global discourses and regional and national contexts*, Routledge.

Cho, D.-S., et al. (2008). "Characterizing international competitiveness in international business research: A MASI approach to national competitiveness." *Research in International Business and Finance* **22**(2): 175-192.

Cole, H. L. and L. E. Ohanian (2001). "The Great Depression in the United States from a neoclassical perspective." *Handbook of Monetary and Fiscal Policy*: 159.

Companies of Intellectual Property Commission Act 2012. Pretoria. Government Printers.

Cooper, D. R. and Schindler, P. S. (2003). *Business Research Methods*. 8th Edition. New Delhi: Tata McGraw-Hill.

Creswell, J. W. (2009). "Editorial: Mapping the field of mixed methods research." *Journal of Mixed Methods Research* 3(2): 95-108.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*, Sage Publication.

Creswell, J. W. and V. L. P. Clark (2007). "Designing and conducting mixed methods research." Sage Publication.

Creswell, J. W. and D. L. Miller (2000). "Determining validity in qualitative inquiry." *Theory into practice* 39(3): 124-130.

De Backer, K. and S. Miroudot (2014). "Mapping global value chains." United Nations Publication. Santiago, Chile.

Department of Arts and Culture. (2015). *South African Fashion Industry Strategy*. Pretoria.

Department of Economic Development. (2005). *Industrial Development Strategy*. KwaZulu-Natal. Durban.

Department of Economic Development, Tourism and Environmental Affairs. (2008). *Furniture Industry Cluster Report*. Pietermaritzburg.

Department of Economic Development, Tourism and Environmental Affairs. (2015). *KwaZulu-Natal Integrated Maritime Strategy*. Pietermaritzburg.

Department of Economic Development, Tourism and Environmental Affairs. (2007). *Ladysmith Black Mambazo Music academy. Business Plan*. Pietermaritzburg.

Department of the Premier. (2013). *Provincial Growth and Development Plan*. Pietermaritzburg.

Department of Trade and Industry. (2014). Guidelines for industrial clustering. Pretoria.

Department of Trade and Industry. (2013). Furniture Industry Strategy. Pretoria.

Department of Trade and Industry. (2006). Customised Sector Programme for Textile and Clothing. Pretoria.

Department of Trade and Industry. (2007). National Industrial Policy Framework. Pretoria.

Department of Trade and Industry. (2007). Industrial Policy Action Plan. Pretoria

Dey, I. (2003). Qualitative data analysis: A user friendly guide for social scientists, Routledge.

Dunning, J. H. (1993). "Internationalising Porter's Diamond". *MIR: Management International Review*: 7-15

Elo, S. and H. Kyngäs (2008). "The qualitative content analysis process." *Journal of Advanced Nursing* **62**(1): 107-115.

Enright, M. J. (2003). *Regional clusters: what we know and what we should know. Innovation clusters and interregional competition*, Springer: 99-129.

Ethekwini Maritime Cluster. (2005). *eThekwini Maritime Cluster: Business plan*. Durban.

Ethekwini Municipality. (2011). *Furniture Cluster: Business Plan*. Durban

Farole, T. and G. Akinci (2011). *Special economic zones: progress, emerging challenges, and future directions*, World Bank Publications.

Felzensztein, C. and E. Gimmon (2009). "Social networks and marketing cooperation in entrepreneurial clusters: An international comparative study." *Journal of International Entrepreneurship* **7**(4): 281-291.

Flanagan, M. (2003). "Apparel sourcing in the 21st Century, the 10 lessons so far." *Just-style.com*, January.

Flick, U. (2006). *Qualitative Evaluationsforschung: Konzepte-Methoden-Umsetzung*, Rowohlt-Taschenbuch-Verlag.

Flick, U. (2008). *Designing qualitative research*, Sage.

Fowler, C.S. and R.G. Kleit (2014). "The effects of Industrial Clusters on the Poverty Rate." *Economic Geography* 90(2): 129-154.

Gabor, M. (2006). "Measuring company level competitiveness in Porter's Diamond model framework ". Institute of Business School Science. H 7632

Gander, J. and A. Rieple (2004). "How relevant is transaction cost economics to inter-firm relationships in the music industry?" *Journal of Cultural Economics* 28(1): 57-79.

Garofalo, R. (1993). "Whose world, what beat: The transnational music industry, identity, and cultural imperialism." *The World of music* 35(2): 16-32.

Growth, Employment and Redistribution (1997). Government Printers. Pretoria. South Africa.

Gereffi, G. and S. Frederick (2010). "The global apparel value chain, trade and the crisis: challenges and opportunities for developing countries." *World Bank Policy Research Working Paper Series*, Vol.

Gibbon, P. (2003). "The African Growth and Opportunity Act and the global commodity chain for clothing." *World Development* 31(11): 1809-1827.

Gordon, I. R. and P. McCann (2000). "Industrial clusters: complexes, agglomeration and/or social networks?" *Urban studies* 37(3): 513-532.

Gorynia, M., et al. (2007). "Clusters—an attempt to respond to the globalisation challenge? The case of furniture cluster in Wielkopolska." *Poznań University of Economics Review* 7(2): 5-28.

Gravetter, F. J. and L.-A. B. Forzano (2003). *Research methods for the behavioral sciences*, Wadsworth Publishing Company.

Grinnell, R. M. and M. Williams (1990). *Research in social work: A primer*. Peacock Publishers.USA

Grubel, H. and P.J. Lloyd (1975). *Intra-industry trade: the theory and measurement of intra-industry trade in differentiated products.* Londyn Macmillan.

Guba, E. G. and Y. S. Lincoln (1994). "Competing paradigms in qualitative research." Handbook of qualitative research 2(163-194): 105.

Guerrieri, P. and C. Pietrobelli (2004). "Industrial districts' evolution and technological regimes: Italy and Taiwan." Technovation 24(11): 899-914.

Gwynne-Evans, N. (2013) Sector connect: Background to the DEDAT Trade and Sector Units. Presentation, CTC, 28 November 2013.

Heizer, J. (2016). Operations Management, 11/e, Pearson Education India.

Heizer, J. and B. Render Operations Management, 2006, Pearson Prentice-Hall: Upper Saddle River, NJ.

Hill, E. W. and J. F. Brennan (2000). "A methodology for identifying the drivers of industrial clusters: the foundation of regional competitive advantage." Economic development quarterly 14(1): 65-96.

Humphrey, J. and H. Schmitz (2000). Governance and upgrading: linking industrial cluster and global value chain research, Institute of Development Studies Brighton.

Industrial Development Corporation. (2010). Clothing and Textile Competitiveness Strategy. Pretoria.

Industrial Development Corporation. Power Outages and Industry Destruction. Pretoria

Humphrey, J. a. S. (2001). "Governance in Global Value Chains." IDS Bulletin 32(3).

International Federation of Phonographic Index. (2001). Music Industry Report.UK

Inoki, M. and Y. Fukazawa (2007). Software product line evolution method based on kaizen approach. Proceedings of the 2007 ACM symposium on Applied computing, ACM.

Ioan, P. and B. M. Gabriela (2009). "GROWTH POLES AND NATIONAL COMPETITIVENESS." Annals of the University of Oradea, Economic Science Series 18(1): 33-39.

Ishmael, B. A. (2008). "Clusters and competitiveness: the development of sustainable competitive industries in small developing countries." The Round Table 97(396): 453-474.

Ivanova, I., et al (2016). "What is the effect of synergy in international collaboration on regional economies?" arXiv preprint arXiv: 1605.06013

Jacobs, D. and M. W. De Jong (1992). "Industrial Clusters and the Competitiveness of the Netherlands." *De Economist* 140(2): 233-252.

Jacobs, F. R., et al. (2004). "Operations management for competitive advantage." Boston: Mc-Graw Hill 64: 70.

Jan Stejskal, P. H. (2011). "Competitive Advantage Analysis: A Novel Method for India Clusters identification." *Journal of Business Economics and Management* 13 (2): 344 - 365.

Jauch, H. (2002). "Export processing zones and the quest for sustainable development: a Southern African perspective." *Environment and urbanization* 14(1): 101-113.

John W Creswell, V. I., Plano Clark (2011). "Mixed Methods Research." Sage Publishing Thousand Oaks, CA

Kaplinsky, R. (2000). "Globalisation and equalisation: What can be learned from value chain analysis?" *Journal of development studies* 37(2): 117-146.

Kaplinsky, R., et al. (2007). "The impact of China on sub-Saharan Africa". IDS Working Paper 291

Kaplinsky, R. and M. Morris (1999). "Trade policy reform and the competitive response in Kwazulu Natal Province, South Africa." *World Development* 27(4): 717-737.

Kaplinsky, R. and M. Morris (2008). "Do the Asian drivers undermine export-oriented industrialization in SSA?" *World Development* 36(2): 254-273.

Kaplinsky, R., et al. (2002). "The globalization of product markets and immiserating growth: lessons from the South African furniture industry." *World Development* 30(7): 1159-1177.

Kinnear, P. R. and C. D. Gray (1999). *SPSS for Windows made simple*, Taylor & Francis.

Knappe, M. (2003). *Textiles and clothing: what happens after 2005?* International Trade Forum, International Trade Centre.

Köhler, J. (2014). "Globalization and sustainable development: Case study on international transport and sustainable development." *The Journal of Environment & Development* 23(1): 66-100.

Kothari, C. R. (2003). *Research Methodology*. New Delhi: Tata McGraw-Hill.

Krugman, P. (1998). "The Accidental of Theorist." *ww.Norton and Company*.

Krugman, P. (2011). *Increasing returns in a comparative advantage world. Comparative Advantage, growth and the gains from trade and globalisation: a festschrift in honour of Alan V Deardorff*, World Scientific: 43-51.

KwaZulu-Natal Fashion Council. (2013). *Business Plan*. Durban

KwaZuluNatal Fashion Council. (2014). *Annual Report*. Durban

KwaZulu-Natal United Music Industry Association. (2015). *Annual Report*. Durban

László, K. (2014). "THE COMPETITIVENESS FACTORS OF INDUSTRIAL PARKS." *Annals of the University of Oradea, Economic Science Series 23(1)*: 151-156.

Lincoln, Y. and E. Guba (1999). *Naturalistic Inquiry*. 1985, Beverly Hills, CA: Sage.

Maggioni, M. A. (2004). "The rise and fall of industrial clusters: Technology and the life cycle of regions." *Documents de treball IEB(6)*: 1.

Mark, R. (1996). *Research made simple: A handbook for social workers*, Sage.

Markus, G. (2008). *Measuring company level competitiveness in Porter's Diamond model framework. FIKUSZ 2008 Business Sciences-Symposium for Young Researchers: Proceedings*.

Marshall, A. (2009). *Principles of economics: unabridged eighth edition*, Cosimo, Inc.

Mattoo, A., et al. (2003). "The Africa Growth and Opportunity Act and its rules of origin: generosity undermined?" *The World Economy 26(6)*: 829-851.

Maxwell, J. (1992). "Understanding and validity in qualitative research." *Harvard educational review 62(3)*: 279-301.

McCann, P., et al. (2002). "Industrial clusters, transactions costs and the institutional determinants of MNE location behaviour." *International Business Review 11(6)*: 647-663.

McCormick, D. (1999). "African enterprise clusters and industrialization: theory and reality." *World Development 27(9)*: 1531-1551.

Meyer-Stamer, J. (2002). "Clustering and the creation of an innovation-oriented environment for industrial competitiveness: beware of overly optimistic expectations." *International Small Business Journal* **20**(3): 1-23.

Morales Meoqui, J. (2014). "Reconciling Ricardo's Comparative Advantage with Smith's Productivity Theory."

Morris, J. B. a. M. (2006). "Regional Development and Cluster Management: Lessons from South Africa."

Morris, M. (2006). "China's Dominance of Global Clothing and Textiles: Is Preferential Trade Access an Answer for Sub-Saharan Africa?" *IDS bulletin* **37**(1): 89-97.

Morris, M. and J. Barnes (2007). "Regional development and cluster management: lessons from South Africa." *Development on the Ground: Clusters, Networks, and Regions in Emerging Economies*, London: Routledge.

Morris, M. and N. Dunne (2004). "Driving environmental certification: Its impact on the furniture and timber products value chain in South Africa." *Geoforum* **35**(2): 251-266.

Morris, M. and G. Einhorn (2008). "Globalisation, welfare and competitiveness: the impacts of Chinese imports on the South African clothing and textile industry." *Competition & Change* **12**(4): 355-376.

Mouton, J. (2001). *How to succeed in your master's and doctoral studies: A South African guide and resource book*, Van Schaik.

Mytelka, L. and F. Farinelli (2000). "Local clusters, innovation systems and sustained competitiveness." *UNU/INTECH Discussion Paper* (2005).

Nadvi, K. (1999). *Facing the new competition: Business associations in developing country industrial clusters*, International Institute for Labour Studies.

National Development Plan. (2013): Government Printers: Pretoria

Nattrass, N. and J. Seekings (2013). "Job destruction in the South African clothing industry: how an unholy alliance of organised labour, the State and some firms is undermining labour-intensive growth." *Centre for social science research*: 323.

Neuman, W. L. and L. Kreuger (2003). *Social work research methods: Qualitative and quantitative approaches*, Allyn and Bacon.

Newlands, D. (2003). "Competition and cooperation in industrial clusters: the implications for public policy." *European Planning Studies* 11(5): 521-532.

New Growth Path. (2009). Government Printers: Pretoria. South Africa.

Nie, P.-y. and P. Sun (2015). "Search costs generating industrial clusters." *Cities* 42: 268-273.

Nordås, H. K. (2004). "The global textile and clothing industry post the agreement on textiles and clothing." *World* 7(1,000).

Notteboom*, T. E. and J.-P. Rodrigue (2005). "Port regionalization: towards a new phase in port development." *Maritime Policy & Management* 32(3): 297-313.

Obstfeld, P. K. a. M. (2003). "International Economics: Theory and Policy." 4th Edition.

Ozgen, E. (2011). "Porter's Diamond Model and Opportunity Recognition: A Cognitive Perspective." *Academy of Entrepreneurship Journal* 17(2): 61.

Pickles, J. (1991). "Industrial restructuring, peripheral industrialization, and rural development in South Africa." *Antipode* 23(1): 68-91.

Pogue, T. E., et al. (2008). "A sectoral analysis of wood, paper and pulp industries in South Africa." Research commissioned by Department of Labour, South Africa.

Porter, M. E. (1990). "The competitive advantage of nations." *Competitive Intelligence Review* 1(1): 14-14.

Porter, M. E. (1998). "Cluster and the new economics of competition". Boston, Massachusetts, Harvard School Press

Porter, M. E. (2000). "Location, competition, and economic development: Local clusters in a global economy." *Economic development quarterly* 14(1): 15-34.

Power, D. and M. Lundmark (2004). "Working through knowledge pools: labour market dynamics, the transference of knowledge and ideas, and industrial clusters." *Urban studies* 41(5-6): 1025-1044.

Power, R. (2008). "What does the rise of China do for industrialisation in Sub-Saharan Africa?" *Review of African Political Economy* 35(115): 7-22.

Pratt, A. C. and T. A. Hutton (2013). "Reconceptualising the relationship between the creative economy and the city: Learning from the financial crisis." *Cities* 33: 86-95.

PriceWaterhouse Coopers SA. (2012). South African Music Industry Report. Pretoria.

R, R. (1992). "Ports as elements in value driven chain systems: The new paradigm, Maritime Policy Management." 29: 241-255.

Riasi, A. (2015). "Competitive advantages of shadow banking industry: An analysis using Porter diamond model." Business Management and Strategy 6(2): 15-27.

Rogerson, C. M. (2006). Creative industries and urban tourism: South African perspectives. Urban Forum, Springer.

Rubin, A. and E. Babbie (2005). Research for social work, Canada: Thomson Brooks/Cole.

Russo, F. (1999). "Strengthening Indian SME clusters: UNIDO's experience." UNIDO Report, Viena, Austria.

Saunders et al. (2005). Research Methods for business students. 3rd edition. Harlow, England: Financial Times/Prentice Hall.

Saunders, M. N. (2011). Research methods for business students, 5/e, Pearson Education India.

Scheel, C. (2002). "Knowledge clusters of technological innovation systems." Journal of Knowledge Management 6(4): 356-367.

Schmitz (1999). "Local upgrading in Global chains." Institute of Developmental Studies. Paper Presented at the Druid Summer Conference 14-16 June 2004 Denmark

Schmitz, H. (1999). "Global competition and local cooperation: success and failure in the Sinos Valley, Brazil." World Development 27(9): 1627-1650.

Schmitz, H. and K. Nadvi (1999). "Clustering and industrialization: introduction." World Development 27(9): 1503-1514.

Schumacher, R. (2012). "Adam Smith's Theory of Absolute Advantage and the use of doxography in the history of economics." Erasmus Journal for Philosophy and Economics 5(2): 54-80

Schwab, K. and X. Sala-i-Martin (2010). The global competitiveness report 2010-2011, World Economic Forum Geneva.

Schwab, K. (2017). The Fourth Industrial Revolution, Crown Business.

Schwandt, T. A. (2007). The Sage dictionary of qualitative inquiry, Sage.

Sekaran, U. (1983). "Methodological and theoretical issues and advancements in cross-cultural research." *Journal of International Business Studies* 14(2): 61-73.

Sekaran, U. and R. Bougie (2003). *Research methodology for business*, New York: John Wiley & Sons, Inc.

Shepard, K. F., et al. "Alternative Approaches to Research in Physical Therapy: Positivism and Phenomenology." *Physical Therapy* 73(2February): 193.

Singh, D. (2006). *Financing Export Clusters. Options and Implications for Strategy Makers. Introductory Discussion Paper. South Africa. Cape Town ICC*

Smit, A. (2010). "The competitive advantage of nations: is Porter's Diamond Framework a new theory that explains the international competitiveness of countries." *Southern African Business Review* 14(1): 105-130.

Spencer, G. M., et al. (2010). "Do clusters make a difference? Defining and assessing their economic performance." *Regional studies* 44(6): 697-715.

Staszewska, J. (2010). "Influence of cluster coherence on efficiency of logistic process." *Logistics and Transport* 10(1).

Statistic South Africa. (2014). *Statistical Report. Pretoria*

Statistic South Africa. (2015). *Statistical Report. Pretoria*

Stoker, D. (1985). *Sampling: Personal communication to the author, Pretoria: Human Sciences Research Council.*

Struwing, F. and G. Stead (2001). *Planning, Design and Reporting*, Pearson Education, Cape Town, South Africa.

Strydom, H. (2011). "The pilot study in the quantitative paradigm." De Vos, AS, Strydom, H. Fouche, CB & Delport, CSL (eds). Research at grassroots for the social sciences and human service professionals 4.

Sugimori, Y., et al. (1977). "Toyota production system and kanban system materialization of just-in-time and respect-for-human system." The International Journal of Production Research 15(6): 553-564.

Tallman, S., et al. (2004). "Knowledge, clusters, and competitive advantage." Academy of management review 29(2): 258-271.

Teddlie, C. and F. Yu (2007). "Mixed methods sampling: A typology with examples." Journal of Mixed Methods Research 1(1): 77-100.

Throsby, D. (2002). "The music industry in the new millennium: Global and local perspectives." Global Alliance for Cultural Diversity. Paris: UNESCO–Division of Arts and Cultural Enterprise.

Tuli, F. (2011). "The basis of distinction between qualitative and quantitative research in social science: Reflection on ontological, epistemological and methodological perspectives." Ethiopian Journal of Education and Sciences 6(1).

Titze, M., et al. (2014). "Actors and Interactions-Identifying the Role of Industrial Clusters for Regional Production and Knowledge Generation Activities." Growth & Change 45(2): 163-190.

Tseng, Y.-y., et al. (2005). The role of transportation in logistics chain, Eastern Asia Society for Transportation Studies.

Udovik, S. (2014). "Cluster." Value Inquiry Book Series 276: 80-81.

UNCTAD (1998). "Promoting and Sustaining SMEs Clusters and Networks for Development, Paper Prepared for an Expert Meeting on Clustering and Networking for SME Development." TD/B/COM.3/EM.5/2.

Viitanen, M., et al. (2003). The Finnish maritime cluster, Tekes Helsinki.

Weiss, J. (2002). Industrialisation and globalisation: theory and evidence from developing countries, Psychology Press.

Wijnolst, N. (2006). Dynamic European maritime clusters, IOS Press.

World Bank (2004) website on "Program and Project Options: Implementing LED.
More Information on Cluster and/or Sector Development"
(www.worldbank.org/urban/led/cluster2.html)

Yu, J. P., et al. (2012). "Fast Fabric: Development and Production Practices of Dominant Fast Fashion Retailers." *Research Journal of Textile and Apparel* 16(3): 1-17.

Appendices 1

Data Analysis Tables

Individual responses

Theme 1 - Government Intervention and provision of support measures

Table 5.8: **The Reasons for Government to establish Industrial Clusters**

Participants	Responses
Participant 1	It is incumbent upon government to have a set of structures called industrial cluster so as to put together resources for companies/industries with the same vision. E.g. music industry, it is important to consolidate one another's strength in terms of being able to leverage whatever strengths within the cluster.
Participant 2	It is necessary because the cluster brings together role players of the similar industries from different perspective and it encourages PPP and so that the private sector would understand what the government intends to do as well as creating a conducive environment.
Participant 3	It is crucial in order for the industry to be organised and to deal with the challenges faced by the industries by coming up with the immediate solutions.
Participant 4	It is necessary because it promotes linkages between different stakeholders or industries. It also promotes the benefits between the industries to have interdependency.

Participant 5	Clusters allow the industries to organise or formalise themselves. It makes life easy for government when approached and speaking in one voice.
Participant 6	To stimulate the growth of the industry as there are lack of direct investments To inject capital where there are market failures.
Participant 7	It is important because industrial clusters are used as special purpose vehicles to deliver upon government imperatives and mandates for specific priority areas and in this case it is maritime clusters. It is important because industrial clusters are used as special purpose vehicles to deliver upon government imperatives and mandates for specific priority areas and in this case it is maritime clusters.
Participant 8	It is important because clusters involve businesses. The government systems are cumbersome. The cluster initiative is there to remove elements of bottlenecks and instil the governance structure within the cluster. Secondly, industrial clusters are able to take decisions and implementation.
Participant 9	Government has got invested interest in assisting businesses in the province but government cannot fund individual companies since the private sector has to work as a collective in order to get assistance. The establishment of a collective voice in order to respond to those collective issues

Participant 10	It has to be a partnership and collaboration. Government should be a facilitator in the space. Government should not run the cluster but to create a platform in order to develop and benefit the economy through greater partnership, breaking the barriers of conservatism and Industry buy-in and allow the industry to grow at a better pace.
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Table 5.9: The reasons for government to fund industrial clusters

Participants	Responses
Participant 1	It will enable government to harness or enhance competitiveness/ comparative advantage for companies operating in a similar sphere, and to bring as a value adds. It becomes easy for government to harness the economies of scale.
Participant 2	As government is providing conducive environment and also draws information from the industry.
Participant 3	To partially fund and support the clusters
	To also encourage the industry to form clusters and as soon as the cluster have be able to sustainable and become independent then government will cease to support them.
Participant 4	It dependents on the nature of establishing the cluster as at some point the industry can establish the cluster on their own or the sector may find difficulty in establishing the cluster then the government will provide support but for a certain limited time frame

Participant 5	It is necessary for music industry as it was misunderstood as an economic driver that can contribute into the economy. We had to find ways of teaching corporate sector about the music industry
Participant 6	The premise is to establish maintain and sustain the industrial clusters
Participant 7	It is imperative to achieve the government goals and objectives to ensure training takes place jobs are created SMME's are supported and also to ensure that the operations of the clusters are funded in order to achieve economic growth and transformation.
Participant 8	It is a platform for collaboration and government has to provide resources for the industry. Government has to gain confidence from the industry. Government provides sunk cost in other ways government provide funding for certain activities of which the industry would not have funded. Businesses have to compete locally and globally and need to collaborate in order to add value.
Participant 9	It is necessary because in any industry there are challenges but if companies are talking in a collective voice it makes easy for government to intervene and support where there are market failures.
Participant 10	Industry has a tendency of working in silos in furniture industry there are small, medium and large players and what happens the front runners tend to take a bigger slice of the share it then clasps the ability of the small players to function in an open and fair environment. Therefore it is important for government to open the arena for smaller size firms by supporting the industrial clusters.

Table 5.10: The ways in which the Industrial Clusters should be established

Participants	Responses
Participant 1	Different industry captains should be approached because it will require structural capital model whereby there has to be a set framework for the spatial development initiative e.g. South Coast Auto Supplier Park, so that there should be incentives that the government should provide to investors to trade at a lessor costs.
Participant 2	Government conducts feasibility studies and business plans before a cluster is being established. And the institutional arrangement will be created or established and the requisite skills will be roped in for managing the cluster.
Participant 3	It is when government realise that could mobilise the industry to establish itself. The industry should take own initiative.
Participant 4	It is advocacy campaign to introduce a new concept of industrial clustering its benefits and challenges to the industry. When you got the industry buy in as government and together with the various stakeholders then the cluster could easily be established
Participant 5	Industrial clusters are established for the industry to know and to deal with the eminent issues. Music sector is so diverse e.g. the industry manufacturing the music equipment, studio, producers etc. should come together within the value chain to speak in one voice
Participant 6	Fashion Council is a NPC and signs the MOA that is renewable after three years, which stipulates specific deliverables

Participant 7	Clusters should be established by government and should have the board and government should have a representative and government and private sector should fund the clusters. Clusters should also lobby private sectors and other various social partners for supporting certain operation such as technological aspects, training and development.
Participant 8	They should be informed by the needs of the industry, because clusters are formed to support and develop the competitiveness of the industry. Inform; influence; and processes should be implemented in collaboration with other industries. They are the integral part of the industry development.
Participant 9	Firstly government should target key contributors of the particular sector and present the intention of the interest and develop the business plan that will serve as a guide in terms of the critical issues that the government needs to respond on and once the business plan has been concluded then start to look at the issues of the institutional framework such as the S21 (CEO; CFO and the staff); then have a board that will develop and drive the very same business plan. People who are visionary and fundraise for cluster since funding has to come from all angles be it private sector as well as from donor agencies.
Participant 10	It has to be a partnership and collaboration. Government should be a facilitator in the space. Government should not run the cluster but to create a platform in order to develop and benefit the economy through greater partnership, breaking the barriers of conservatism and Industry buy-in and allow the industry to grow at a better pace.

Table 5.11: The necessary interventions that should be employed by government in supporting industrial clusters

Participants	Responses
Participant 1	Government should set up a dedicated wing or office or officers in the department or LED in order to ensure that there is clear communication so as people will work as agglomeration.
Participant 2	The first necessary support is funding.
Participant 3	The provision of funding and setting up of the rules and regulations e.g. The cheap import of chicken and the issue of Rainbow Chicken where it is scaling down its labour force because of the cheap imports. In this instance government should intervene where necessary by providing utilities such as land and incentives.
Participant 4	<p>To support the operations of the cluster</p> <p>Government should lead the development of strategy of the cluster</p> <p>The industry should buy in into the strategy for the establishment of the cluster. The strategy will determine the interventions. Such intervention could be in many folds: skills, R&D and innovation, industry expansion, identify flagship projects, international collaboration, how to raise funds.</p>
Participant 5	The idea of policy changes. Government has made a room for developing policies that destined to grow the music industry such

	as the Music Strategy and the amendment of the Intellectual Property Law.
Participant 6	Government should provide funding and able to create commercial opportunities for the beneficiaries. Once beneficiaries are trained and therefore they should get started and benefit in terms of Preferential Procurement Opportunities.
Participant 7	Financial support; Intellectual Support; Training in order for a cluster to be efficient and effective; Best practices
Participant 8	Government should have a willingness to listen Understand the business environment, being responsive, adapt and make quick decision. Addressing the real needs of the industry, need to know the beneficiaries of the industry, understand clear objectives defuse the unrealistic expectations, manage and monitor the deliverables and the impact.
Participant 9	It will be the financial support; Develop a business plan; Have the institutional arrangement that is effective; Develop policies and governance in order to circumvent the issues of mismanagement of funds that will lead to the failure of the industrial clusters
Participant 10	Government has come up with the cluster fund, industry support which the clusters are able to tap into, the Customised Sector Programme (CSP) funding, however it is only the matured cluster that will be able to take advantage of those support measure. At the provincial level there are problems of the

	<p>duplication of programmes such as Industrial hub and the Industrial Clusters. Therefore clustering requires consistent support and funding. This is evident in the old clusters where they have been able to bridge a place where competition is at the external level (Not an internal competition) e.g. Export markets and international competition. Therefore consistency is key, that has kept the industry at the very low levels of performance which has led to the large of companies being monopolising markets because of the lack of consistent support. The comparison of clothing and textile cluster and the furniture industry is the labour intensity and conservatism of those individual companies or industries in the furniture industry that are monopolised the markets. There is a great difference and the growth path within the textile and clothing cluster than in the furniture cluster because of the vertical clustering from JD Group to Steinhoff there is a huge window of opportunity for growth in making inroads into the international markets but this is only for single firms. But those potentials are only accrued to single firms more especial in the furniture industry and the rest of the industry is still struggling.</p> <p>There is a design and furniture manufacturing cluster located in a small city in Sweden called Tibro. It has been funded by the government of Sweden since 1972, this is a long term vision and support that will be an easy way the South African government can sustain the clusters.</p>
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Table 5.12: Funding mechanisms available to support industrial clusters

Participants	Responses
Participant 1	If government should provide grants or incentives or tax rebates so as to attract companies to invest in the particular set up so as to leverage one's strength.

Participant 2	<p>Private sector provides support/resources for specific interventions such as trainings.</p> <p>Government also provide support through the signing of the MOA with the specific deliverables such as providing training etc.</p>
Participant 3	<p>At present the KZN Province provides funding and also DTI provide funding for clusters.</p>
Participant 4	<p>Looking for the DTI funding scheme for Industrial clusters and SEDA</p> <p>The KZN province has got Growth Fund, Ithala and IDC which assist in terms of infrastructure support.</p>
Participant 5	<p>National Arts Council, UNESCO, the IFPI, CIPC, the DTI and Municipalities and KZN EDTEA and DAC</p>
Participant 6	<p>Sponsorships, Discount rates, get members to plough back into the cluster in order for the cluster to sustain e.g. African Fashion Exchange</p>
Participant 7	<p>Government funding models (Provincial EDTEA)</p> <p>DTI financial Scheme. Within Maritime – for example Aqua-Culture will look for funding from department of Agriculture and Fisheries and for manufacturing the DTI is available</p> <p>It also depends on the initiatives and projects of the cluster wherein private sector could be approached for support and assistance and sponsorship.</p>
Participant 8	<p>Funded by both local and provincial government (EDTEA and eThekwini Municipality)</p> <p>DTI funding</p>

	<p>Industry own contribution</p> <p>Funding from Development agency and various SETA's for skills development</p>
Participant 9	<p>There are various sphere of government who are having resources in supporting the clusters.</p> <p>The DTI scheme; and</p> <p>Private sector support and investment;</p> <p>Development agencies such as IDC</p>
Participant 10	<p>There is city grant funding section 67 of MFMA, provincial funding. Key thing is the cluster setup the concern because of government funding some of the clusters fail to bridge that gap of accessing funding from other sources, local or international eg CSI, DTI, IDC, Gijima, Jobs fund. The challenge is that there are tedious processes in accessing those funds. The matured clusters are the only clusters that are able to access those funds and unfortunately for emerging clusters there are limited chances of accessing funding due to compliance issues and the rapport with the funding agencies.</p> <p>There is city grant funding section 67 of MFMA, provincial funding. Key thing is the cluster setup the concern because of government funding some of the clusters fail to bridge that gap of accessing funding from other sources, local or international eg CSI, DTI, IDC, Gijima, Jobs fund. The challenge is that there are tedious processes in accessing those funds. The matured clusters are the only clusters that are able to access those funds and unfortunately for emerging clusters there are limited chances of accessing funding due to compliance issues and the rapport with the funding agencies.</p>

Table 5.13: The role of government in ensuring future sustainability and growth of the industrial clusters

Participants	Responses
Participant 1	Government should create structures in order to create the enabling environment that will be able to monitor and evaluate the effectiveness of the clusters, continuity and sustainability within companies that are having substitute products for complimenting one another. It is incumbent of government to play a critical role in creating the Public Private Partnerships that can work with the chambers commerce in pulling companies to work together with similar goal.
Participant 2	It is to provide conducive environment and monetary support.
Participant 3	The role of government should provide support and the clusters should not depend on government and they should be self-sustainable. Government should be looked as an extra support
Participant 4	Government should fund clusters on a sliding scales e.g. Provide 100% funding for the first two years for the operations and setting up and then reduce funding on the sliding scale for the next three years. Government should inform the clusters about other support measures available from other entities that will also help to sustain and grow their industrial clusters. Government could act as a partner in advocacy of the cluster in order to attract more members and give the cluster more credibility to show that they have the support of government
Participant 5	Think that the cluster can take money and not make any reporting. Government provides funding because of the vision and strategic goals that are to be achieved by the industry cluster.

Participant 6	Continuous funding and other revenue streams e.g. Africa Fashion Exchange (AFX)
Participant 7	Government should ensure monitoring and evaluation, assessment of the cluster in terms of the set goals and targets are met. To ensure continuous support and close working relationship
Participant 8	<ul style="list-style-type: none"> a. Facilitator b. Funder c. Influence and Inform d. Align e. Industry Support f. Monitor g. Forge linkages h. Create enabling environment i. Tripartite role
Participant 9	<p>The critical issue is that the government should be playing the facilitation role and not to be directly involved the implementation process. Government should ensure proper co-ordination and ensure that the cluster is fully fledged in ensuring future sustainability;</p> <p>From time to time government has to revise of the business plan since some of the issue get obsolete and irrelevant overtime and finding that they are not responding to the critical needs of the cluster.</p>
Participant 10	Consistency is key e.g. Footwear, leather and clothing cluster platform in Las Vegas set up by government, there was keen interest of the international stakeholders. It shows there is support mechanism provided by government in ensuring that

	<p>there is government backing which serves as the key guide to other countries to show that there is a surety for industry to grow. The business plans approved by government means there is a buy-in to the industry and to bring the industry confidence.</p>
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Table 5.14: The adopted Institutional Framework by government in supporting industrial clusters

Participants	Responses
Participant 1	Government should create permanent structures which could meet once in a while that will cut across businesses, labour and civil society. E.g. Auto Supplier Park, companies along the value chain working together in feeding TOYOTA. In order for this partnership to be sustainable there has to close working relationship between partners in order for government to monitor and intervene where there are challenges and be able to get feedback which can be evaluated going forward.
Participant 2	To assist clusters to become public entities in order to receive support from government.
Participant 3	The cluster should align itself with the government policies such as youth, women empowerment and BBEE.
Participant 4	Government can have a dedicated person to look after the support of the clusters (Government involvement as a stakeholder) Put the support of the Clusters under one of its Agencies wherein Trade and Investment is responsible for the Business and retention and expansion, marketing, export. TIK should be working closely with the industrial clusters. Hence the EDTEA is the one that educated the industry about the benefits of establishing the clusters once the cluster is formed and you

	got members then TIK should play a greater role because they are involved in the attraction of investments, marketing and export and business retention and expansion. Then you can institutionalise the cluster under the Agency other than EDTEA.
Participant 5	Obviously KUMISA is a NPC and there what KUMISA stands for is to compliment on what the government is doing. Because of policies set by government this will at some point hinder goal and objectives of the clusters.
Participant 6	Any institution or an organisation is built on a piece of paper such as policies, MOU/A or strategies
Participant 7	Model where there is government, clusters board and members. Model where there is government, clusters board and members It should a S21 Non Profit Company
Participant 8	Flexible institutional framework Government wants to control clusters as an extension of government One size fits all approach Non Profit Companies (which is more flexible; complaint in terms of governance; with strong management)
Participant 9	Section 21 (not for gain) and Develop policies and strategies
Participant 10	It should be S21 non-profit companies established by private sector Government should provide support in terms of policy directive as well as funding the clusters but should not take control of the cluster

Table 5.15: The causes and challenges that lead to industrial clustering to fail

Participants	Responses
Participant 1	Bureaucracy is the teething problem. If competition and agglomeration erupts within the companies, industry cluster cannot sustain. This is attested by Michael Porter's competitiveness. If there are perpetual new entrants entering into the markets (industry cluster), then that could cause the cluster not to be sustainable in the long run. The notion is that the new entrants will be selling at low prices and that could create unnecessary competition.
Participant 2	Funding is one of the challenges. Clusters are not consumerating their recruited staff in par with the market related salaries which could leads to staff turnover.
Participant 3	Dependency and failure to take ownership
Participant 4	<p>If a leader acts in a selfish manner then it leads to failure Conflict of interest by cluster leaders</p> <p>If a leader acts in a selfish manner then it leads to failure</p> <p>Conflict of interest by cluster leaders</p> <p>Lack of basic monitoring of the cluster fund will cause failure</p> <p>Biasness towards certain members of the clusters which could ignite the commotion within the cluster members</p> <p>Lack of interaction with other successful clusters for benchmarking</p>
Participant 5	The issue of corporate governance and you find the board is not qualified or equipped with the issues of governance, finance and leadership.

	<p>The good leadership at operational level and accountability to the funders-government and to the public that we serve (membership)</p>
Participant 6	<p>It is established not sustainable,</p> <p>It is not measured and the model is made not to be sustainable because if one fashion designer from uMlazi is given training and then the resources are depleted since there is no plough back by members. In essence there is no benefit for members that entice them to pay membership fee.</p>
Participant 7	<p>The committees which are diverse make it difficult for people to attend</p> <p>Cluster being voluntary and which takes take for members to attends (No incentives)</p> <p>The skewness of the members where some groupings are more represented and others are less involved.</p>
Participant 8	<p>Government hold on to clusters giving them unlimited support</p> <p>Government become complacence (No start and end of funding)</p> <p>Government support becomes perpetual (For example, Boat building support programme where the eThekweni Municipality was supposed to provide the support for the limited time but ended up holding on).</p> <p>Government is supposed to norm; form; storm and leave the project.</p> <p>Cluster receiving the support at a diminishing return.</p> <p>Limited resources and government framework (strategic Choice) there was no policy for the industrial cluster hence not the policy imperative.</p>

	There is no government obligation to support clusters.
Participant 9	<p>Funding;</p> <p>Non co-ordination of the cluster issues which are raised by the business plan;</p> <p>There are despondent members of the cluster who do not see value in being part of the cluster because of the lack of substantial programmes to drive the cluster to the next level.</p>
Participant 10	<p>Lack of consistency by government which is the key to failure of most of the industry clusters;</p> <p>Non delivery of the set objectives as per the submitted business plan</p> <p>Stakeholder working relations which failed to consolidate their goals and industry interventions. Province not having a clear communication with stakeholders such as the eThekweni municipality.</p>

Table 5.16: The experiences encountered by industrial clusters in accessing government support

Participants	Responses
Participant 1	One of the hardships in accessing government support is the tedious process to fulfilling the government processes and also politics take its cause.
Participant 2	Clusters at some point find it difficult to comply with government legislations and policies.

Participant 3	There are misalignments with the government policies and strategies. Whatever the cluster is doing without alignment with the government vision then it will be destined to fail.
Participant 4	<p>Bureaucracy and red tape</p> <p>Impatience of cluster members to understand government processes. Failing to understand that these are government funds</p> <p>Capacity to fill in forms, capacity to develop bankable business plans.</p>
Participant 5	If the cluster has a clear and good mandate, the government will support. Government saw a need to establish the Music Cluster. There has been a wonderful working relationship with government.
Participant 6	The experience by the fashion Cluster in accessing government was phenomenon and forward thinking as there are many companies that are benefiting from this initiative. Whether the mandate is still relevant is something that has to be explored.
Participant 7	The experience of the cluster has been positive more especially in the Maritime sector. So far there are no critical challenges. There are good working relations between the government and the cluster.
Participant 8	<p>Limited resources and government framework (strategic Choice) there is no policy for the industrial cluster hence not the policy imperative.</p> <p>Limited resources</p>

	<p>Limited resources and government framework (strategic Choice) there is no policy for the industrial cluster hence not the policy imperative.</p> <p>There is no government obligation to support clusters.</p>
Participant 9	<p>The most one is that the government fund clusters for a specific period of time and if the resources are depleted then the government pulls out hence the cluster was starting to take off. Therefore it will be the government pointing failure to the cluster hence it was prematurely for government to pull out the support.</p>
Participant 10	<p>Working relations with the provincial government;</p> <p>Lack of consistent support by government</p>

Table 5.17: The relevance of Industrial clustering in Industrialising the KZN Province

Participants	Responses
Participant 1	<p>The adoption of IPAP and establishment of the black industrialist scheme by government encouraged people to establish businesses or industries in a bid to create employment produce at a mass scale and to increase productivity within the region. This encouraged businesses to leverage on those opportunities that will have significant contribution into the GDP of the province.</p>
Participant 2	<p>For example, the eThekweni Maritime Cluster is able to pull foreign investors to participate in the industrialisation of the province. Through the Operation PAKISA, countries such as Panama Island visited the province in a bid to invest and get more information about the oceans economy.</p>

Participant 3	It is relevant because KZN depends on manufacturing. E.g. Textile and clothing when it was established it save costs in terms of sharing facilities, transport costs and maximisation of profits.
Participant 4	It has advantages. It brings different players together It reduces the costs of overheads e.g. bulk buying It can play a representative role with government and civil society
Participant 5	To this day, bringing different sub sectors together, that's unity and speaking in one voice.
Participant 6	It is relevant as it bring stakeholders together in a bid to become competitive against the rest of the world
Participant 7	It is relevant since the cluster is the priority area which plays a critical role in developing various subsectors within the cluster such as SMME Incubation, and Industrialisation.
Participant 8	One of the tools that could add value in industrialising the province There are captive audience and established platforms; knowledge base network trust and the buy in. For industrialisation it is too individual and for the cluster is the collective of industries which they can use cluster concept as a platform for industrialisation.
Participant 9	It is relevant because it will be easy to co-ordinate the industry from small to big business and understand their needs.
Participant 10	The success story of the textile and clothing cluster; the sector lost number of jobs around the 2008-2012; but the employment level have started to increase by 25 % in the last three years due to the government support measures and mechanism for

	<p>growth. The cluster has been at liberty in receiving government support in order to deal with the issues of world class manufacturing; production efficiencies; minimising the gap between the manufacturers and designers. This led to the job creation and for the industry that had shed the jobs this tells a good story of how industrial clustering has industrialised the KZN province</p>
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Table 5.18: The relationship between Industrial Clustering and Organisational Competitiveness

Participants	Responses
Participant 1	It is imperative so that there will be sinks of the information flow in terms of working together, good working relationship and partnership - PPP (working with existing organisations) which will enable trade to thrive. Clusters have to work together in order to be effective. If there are no barriers to entry it will therefore make easy for companies to operate in a conducive environment.
Participant 2	There is a good working relation between the cluster and organisation as they share information and knowledge thereby assisting organisations to increase competitiveness.
Participant 3	Learning from other companies in terms of benchmarking, reducing waste and this is beneficial for organisations to learn from each other.
Participant 4	<p>The join business expansion programme as companies wants to expand in order to achieve competitiveness. The TIK could play a role between the cluster members</p> <p>Cluster has to establish linkages</p>

Participant 5	There is a need for healthy competition, Gearzone, Glenwood village Music who believe that the cluster is their voice but at the same time they have to compete at certain space in order to stay in business and to maximise profits.
Participant 6	Misalignment, the cluster needs to find relevance, The cluster needs to speak to the conglomerates of retail, if you want to stimulate the economy the Woolworth, Truworths, Mr Price Group do not have to source or buy overseas, but buy local. E.g. the cluster push back is the lack of the economies of scale, lack of capacity, poor quality, and high prices.
Participant 7	The cluster provides opportunities to network and to get an understanding the secrets of the industry leverage of information, best practice and benchmarking.
Participant 8	Competitive in an outward looking; region or outwards, as a Sector Looking at the business: Inward looking – Need to know your customer’s needs; need to know your environment; your competitors. In order to improve on the efficiencies on your logistic chain you need to work in collaboration with your suppliers. Get better understanding of your competitors along the value chain in order to improve your business. Whereas as a collective you can influence the market e.g. Porters Diamond indicates that industries should mobilise as a collective in order to maximise the economies of scale.
Participant 9	Issues of standardizing; and Issues of competitiveness are derived from the industrial clustering.
Participant 10	The relevance of governance in the delivery of the programmes is a challenge. E.g. The Fashion Council has got a challenge in

	<p>the governance which is highly contested. In this instance the governance is not understood in the creative minds. And it is not understood by particular individuals e.g. board instructions. The different agencies and structures it becomes more critical. The Clothing and textile cluster governance is very critical. It makes it very easy for other companies to join the cluster</p>
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Table 5.19: The critical success factors that make the industrial clusters to grow or succeed

Participants	Responses
Participant 1	<ul style="list-style-type: none"> a. Conducive environment, b. Harnessing of economies of scale, c. Good value chain d. Maximization of profits e. Access to supply customers in time and at competitive prices this will lead to efficient lead times, f. Application of just in time, (where there are no storage facilities) g. Good infrastructure, h. Good Transport and logistics system, i. Good support mechanism - Efficient broadband – e.g. good communication in order to operate effectively and efficiently. j. Good competitive advantage. k. Conducive environment, l. Good value chain m. Maximization of profits n. Access to supply customers in time and at competitive prices this will lead to efficient lead times, o. Application of just in time, (where there are no storage facilities) p. Good infrastructure,

	<p>q. Good Transport and logistics system,</p> <p>r. Good support mechanism - Efficient broadband – e.g. good communication in order to operate effectively and efficiently.</p> <p>s. Good competitive advantage.</p> <p>For example, if the cluster is regional, and there are value adds within the region if there is a product coming from across the border and there is a good relationship between the two countries; there are products that are semi-finished taken across boarder (what is critical is time factor) and if there are no tedious processes, the clusters or industries transacting in these two countries will succeed. But if there is a war between two countries then it makes it difficult for the companies to thrive.</p>
Participant 2	<p>To building good working relationship between the industry players, and</p> <p>To build good working relations with the education institutions so as to provide requisite skills</p>
Participant 3	<p>To have set strategic goals, vision in order to evaluate whether those</p>
Participant 4	<p>a. Proper leadership</p> <p>b. Adequate funding</p> <p>c. Benefits available to attract new members</p> <p>d. Advocacy</p>
Participant 5	<p>Some clusters are working on the tick box exercise. The master cluster programme played a crucial role in realising the vision of the organisation and for some artists. The reality was that this programme has written a true story about their life after the training programme and bringing competitiveness into reality.</p>
Participant 6	<p>Push back on the international products and then exports</p>

Participant 7	Understanding the gaps of the industry, having guidance of the industry, being relevant, being agile, understand the government strategies and policies, having strategic partnerships with relevant stakeholders, getting the recent research about the industry, and best practice sharing, Maritime sector is also highly related to other industries.
Participant 8	<ul style="list-style-type: none"> a. Understanding that clusters have to work together; b. Willingness and influence to government as a collective; c. Putting your differences aside and agree to work together and focus on the core; d. Resources are critical issue; e. Communication – diffuse unrealistic expectation; f. Play within the cluster and actively participate; g. Commitment by each member; h. Support from different partners and stakeholders; and i. Stay in the course.
Participant 9	It will relate to sustainable financial support; and Effectively run cluster programme.
Participant 10	Clear understanding by all parties what is the role of each party and the functions. What is the role of the board, what is the role of the reporting line stops? The formation of the well-functioning governing structure pens out and the difficulties in the brand management, delivery and perceptions.

Table 5.20: The role of Private Sector in Developing Industrial clusters

Participants	Responses
Participant 1	<p>Private sector is very critical, Industrial clusters were not developed by Michael Porter however they were advocated by Alfred Marshall (book Principles of economics) who established industrial districts. The core imperative is the competitiveness how swiftly the finished product can reach the market. If you operate and co-exist in an environment where you engaged in an international trade and there are imports coming to create more competition into the country you need to leverage your strengths so that you can export more products in order to maximise profits.</p> <p>Private sector is the engine to make the clusters to work because for them the bottom line is to maximise profits. If they are given an enabling environment their cost of doing business is very low and they are able to get the supply of their products that they need and get their products to market in time and then it became a win-win situation.</p>
Participant 2	To provide the industry information and for big businesses to assist the emerging industries
Participant 3	The industries have to start these clusters and have to be the owners and lead the cluster.
Participant 4	<ul style="list-style-type: none"> a. Leading role and foresight b. Know of the emerging and modern trends c. Chart the way forward for the clusters
Participant 5	We have placed master class students on an internship programme which most of them are private sector. Private sectors have played a crucial role in partnering with KUMISA in taking some of the trainee graduates to serve in their companies. For example,

	Trace TV, Sonny, Sheer Publishing are very big companies that adds value and to fulfil our mandate.
Participant 6	Procuring locally Enforce PPPFA
Participant 7	<ul style="list-style-type: none"> a. The private sector should play a role in developing and supporting cluster members in training and development; b. Private sector should also absorb some members for training and development c. Sharing of the information.
Participant 8	<ul style="list-style-type: none"> a. There should be a cluster first and then private sector should buy in into the idea of the industrial cluster; b. They need to participate and implement cluster projects; c. Get industry information (not trade secretes) - divulge company information such as number of people employed.
Participant 9	<ul style="list-style-type: none"> a. To be the key participants; b. Fund the cluster programmes; c. Drive the implementation of the cluster business plan; d. Have the key voice in terms of all the issues that needs to be addressed at the cluster level; e. Assisting in finding local and international market for the cluster which will relate to the issues of sustainability.
Participant 10	Private sector has a huge role to play. In the matured cluster, they realise that the benefit is only for their own companies but its more on uplifting the whole industry. For example, in the leather and footwear cluster, automotive cluster (Toyota) for instance they have realised that they cannot function without the support automotive component suppliers. A lot of the emphasis goes to the upliftment of automotive supply chain which is a big driver and the success of the automotive industry. There are

	<p>lessons to be learnt on this as it is perceived that South Africa has a legacy of being conservative when it comes to industry development which means there are big fears by industry in teams of corporate IP; capital and being distressful.</p>
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Table 5.21: The benefits of joining the Industrial Clusters

Participants	Responses
Participant 1	If you are part of the cluster you are part of the big environment e.g., participation at the outward trade missions, access to information from other similar industries which can assist to succeed even more.
Participant 2	To be abreast with the industry information To get information from industry association about the changes in the industry.
Participant 3	<ul style="list-style-type: none"> a. Information sharing b. Networking c. Sharing facilities d. Market access as a collective.
Participant 4	Opportunities to expand the business, to gain experience, to form partnerships, to reduce your overheads
Participant 5	<ul style="list-style-type: none"> a. Information sharing b. Handholding c. Networking and d. Unlocking opportunities
Participant 6	<ul style="list-style-type: none"> a. Opportunities; b. Exposure; c. Industry linkages and support d. Affiliation;

	<ul style="list-style-type: none"> e. Networking f. Information Sharing
Participant 7	<ul style="list-style-type: none"> a. Forming strategic partnerships; b. Affiliation and linkages; c. Collaborate with private and public sector; d. Network; e. Finding areas of collaboration; f. Being part of the solution.
Participant 8	<ul style="list-style-type: none"> a. Engage with your counter parts be it in your geographic location or sectorial base b. Get a platform to make a difference in your sector/cluster; c. Solution driven (work with government); d. Share best practices especially research related to fashion trends; new technology employed; e. Share resources and maximise the economies of scale and profits.
Participant 9	<ul style="list-style-type: none"> a. The benefits will relate to skills development; b. Access to information; c. Interact with industry players because of the interconnectedness of the industries along the value chain; d. Able to access local and international markets; e. Buying and Sharing of raw material at the reasonable costs that will have a direct bearing in growing the industry businesses forward.
Participant 10	<ul style="list-style-type: none"> a. Accessing direct programmes; b. Access to Information;

	<ul style="list-style-type: none"> c. Information sharing and knowledge; d. Government support; Industry networking; e. Being part of the bigger value chain; f. Alignment with other industries within the value chain which could increase the production efficiencies; technologies; g. Access to markets and international industry networking; Increase trade relations.
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Table 5.22: The Role played by each Participant within the cluster

Participants	Responses
Participant 1	There are people who are distributors, makers, and producers, all of these players they need one another so that the value chain can exist. E.g. KIMISA is responsible for lobbying and advocating on behalf of the artists, for music to thrive and for us to contribute effectively and efficiently. It is incumbent that good relationships are created with the institutions such as local Radio Stations because they became part of the value chain that we require so that the quality music will be played and listened but this call for good working relationship along the value chain. E.g. The Hit song Sobulalu van Damme which was the New Year's Eve song for 2016/2017
Participant 2	<ul style="list-style-type: none"> a. To provide strategic direction for the cluster to achieve the ultimate goals b. To play a facilitation between the cluster and government
Participant 3	<ul style="list-style-type: none"> a. To make sure that they honour the signed Memorandum of Agreement with government and adhere to the rules and regulations stipulated by government; and b. To provide a strategic direction to the cluster as an Ex-Officio member within the cluster.

Participant 4	<ul style="list-style-type: none"> a. Introduce and develop the concepts of the clustering b. Liaison between government and clusters c. Work with the industry to establish the cluster d. Assist in co-ordinating the activities of the cluster
Participant 5	Work as a General Manager for the Cluster, Head Operations and Projects, Oversee Budgets, Report to the Board and ultimately to the cluster members.
Participant 6	Provide Strategic Direction, Growing the industry in terms of the provision of the empowerment programmes.
Participant 7	<ul style="list-style-type: none"> a. To support the operations of the cluster; b. To ensure that the youth and PDI's participate at the mainstream economy of the Maritime cluster c. To provide strategic support and advice d. To create the awareness of the Maritime Sector across the value chain.
Participant 8	<ul style="list-style-type: none"> a. Dual role b. Leading the setting up of the cluster; Stakeholder engagement; understanding of the value chain and its dynamics; how the industry was structured; c. Facilitator and Implementer (Playing a referee and the player); d. Understanding the corporate governance; understating the financial matters; policies and processes; e. Coordinate programmes; harvest best practices and coming back and implement.
Participant 9	<ul style="list-style-type: none"> a. Being a project manager; b. Being an ex-officio in the board; c. Oversee the processes and programmes in ensuring the effective implementation of a business plan; d. To represent government and report back in terms of assessing the objectives and deliverables set out in the business plan and funding agreement.

Participant 10	<ul style="list-style-type: none"> a. Being a facilitator; b. Providing Strategic direction; c. Being an ex-officio; d. Project Planning and support; e. Interacts with all spheres of the government levels as well as the donor agencies.
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Table 5.23: The importance of industries to working closely within the industry value chain

Participants	Responses
Participant 1	Some people perceive it as (there is very thin line) competitors; hence they could learn an art of being to coexist with their competitor, e.g. If there is a big order that needs to be accomplished, then you need to negotiate with your perceived competitors so as to fulfil the export order within the time frame. At some point you need to consolidate each other's strengths and ensure that you can that specific order. Some people come together to agglomerate and fix prices and this have been experienced with the competition tribunal which is not good.
Participant 2	If various industries are working closely to each other it will save time and money when outsourcing the required material.
Participant 3	For the business to succeed, they need to get supply of raw material in time. If that is not achieved then the whole value chain will be affected e.g. retails and customers.
Participant 4	<ul style="list-style-type: none"> a. To understand how they operate within the value chain b. To determine what type of linkages and partnerships are available within the industry value chain c. To know how they impact into the economic development of the province.

Participant 5	Collaboration always makes a dream to work better (Team Work) e.g. it is our mandate to work together with organisations such as SAMRO (specialised field)
Participant 6	Synergies and to collaborate
Participant 7	It is imperative because there is a direct bearing into the sector since other sectors are interrelated and dependent then it affects the efficiencies of other sector across the value chain and it creates delays in lead times.
Participant 8	<ul style="list-style-type: none"> a. Close Knit network; b. Commination; c. Planning; d. Efficiencies; e. Just in Time f. Delivery of goods at the particular time; quantity and location; quality g. Requires an understanding of the environment; communication; certain culture within the value chain
Participant 9	<ul style="list-style-type: none"> a. It is critical in the sense that it opens doors for a business to expand more especially in the sense of innovation because working in silos will not grow your business; b. It is critical to find linkages within the segment of the value chain so that you make your business to grow otherwise if there are fragmentations within the value chain then the cluster will not grow or succeed.
Participant 10	If you want your business to grow or succeed or have business confidence therefore you will have productivity and markets if you have productivity without markets therefore your business will fail. To enable productivity and markets you need to have quality and assurance so that you will be able to deliver what is

	<p>required when it is required and capacity. But need everyone within the value chain working together for the service to be delivered and therefore the value chain is critical. And for the value chain to be efficient therefore you need to have a say in the different levels or segments within the value chain.</p>
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Table 5.24: The Challenges or bottleneck faced by companies with the industry value chain

Participants	Responses
Participant 1	<p>In the music industry, the bottleneck is in the distribution if you don't have a sound relationship with the multinationals that are currently dominating the music industry sector, then your product will not reach the shelves and will end up sitting with the pile of stock since there are barriers to enter the value chain. There are also backward and vertical market integration within the space of the music industry which is dominated by the big multinationals such as Vendi or Warner Brothers who own the entire value chain e.g. recording studios, retail shops, distribution and retail. If you don't want to sign with them or be in good books with them, then you will face a challenge of not make it into the market as they will squeeze you out of the market. This could attest that there is power in unity.</p>
Participant 2	<p>Example, if importing the raw material from outside, the lead times taken to release the goods form the port are also contributing factors to the challenges of the value chain</p>
Participant 3	<p>Fashion designers are neglected and isolated within the fashion value chain. The whole value chain is fragmented and poses a challenge to fashion designers to get good quality fabric and to get it on time.</p>

Participant 4	<ul style="list-style-type: none"> a. Selfish cluster leaders b. Conflict of interest with board members c. Trying to monopolise the fund acceded to the cluster d. Reluctance to raise funds from private sector believing government should fund the cluster for eternal life
Participant 5	<ul style="list-style-type: none"> a. One of the challenges is when KUMISA wants to visit District Municipalities there is resilience in some of the municipal officials which in our view has Political inclination, and of cause there are also social factors and some organisations are reluctant to work with KUMISA citing that KUMISA is going to take their market share. b. The issue of funding is believed to be universal to all cluster organisations.
Participant 6	Misalignment between design and manufacturing.
Participant 7	<ul style="list-style-type: none"> a. The issue of traffic congestion at the port makes it difficult and in efficient of maximise the economies of scale; transformed. b. The issue of different views of development where a project could yield more jobs then the opportunity would be lost; the issue of lease agreement and land are a critical obstacle, c. there are few players in the industry and thereafter the industry is not transformed; lack of awareness and opportunities within the maritime industry, funding and limited skills; d. lack of black companies to comply with the set guidelines and documentations for them to get opportunities;
Participant 8	Value chain in the Maritime is not linear; Maritime is oligopoly; It becomes a challenge to communicate with each other than the car manufacturing where auto suppliers are working towards supplying one car manufacturers. There are many players within the maritime value chain.

Participant 9	<p>The critical challenge is working in silos and not sharing information; they only seek information when they are faced with challenges;</p> <p>The establishment of working relations amongst the industry players is also a challenge.</p>
Participant 10	<p>Conservative of the management and the ability of the management of the cluster to be agile are important. Members resisting to change is a critical issue. It's also about the mind-set change of the management and have a key person within the space of a firm or a cluster then you will be able to make a switch into actually developing a company in terms of the a vision of a programme content.</p>

Table 5.25: The available opportunities for new entrants (SME) to enter into the Industrial clusters (mainstream economy within the value chain)

Participants	Responses
Participant 1	<p>The classical example is Michael Porter. The predicament is the barriers to entry, if the artist is new (never produced an album) and wants to enter into the market that becomes a challenges. This requires robust marketing, e.g. Payola. People have to place a brown envelop to music compilers for the artists to be on a playlist. If not acting on that their music won't be on rotation or air played (on the radio stations). The multinationals ensure that if you don't coexist with them or sign deals with them your music won't heat shelve. For example, Mayonie Production and Afrotainment have signed distribution agreements with Warner Brothers so that they will be able to get into the value chain and their music will be found on the shelves.</p>
Participant 2	<ol style="list-style-type: none"> a. Supplier development programme b. Incubator development programme

	c. Exposure to opportunities available from the particular industry.
Participant 3	Non existing – The well-developed industries tend to create barriers for the SMME's not enter and at some point they make it difficult for the emerging companies to join by setting the joining fee very high e.g. High barriers to entry
Participant 4	The new entrants are normally supported in the area of innovation, where they are embraced when entering the cluster and the cluster could provide support
Participant 5	<ul style="list-style-type: none"> a. Major opportunities: every opportunity that comes direct either from local or overseas new or old members has equal opportunities. b. New entrants are also given an opportunity to learn how to peach for the opportunities available. c. Information Sharing and d. The provision of capacity building workshops and skills development opportunities
Participant 6	<p>Membership is free</p> <p>Free programmes and services and new opportunities</p>
Participant 7	<ul style="list-style-type: none"> a. To form strategic partnership and relationship b. To have access to the researches work and to be able to cease the opportunities c. To gain knowledge and collaborate with other related industries; d. To gain or share human resources and knowledge of local and international opportunities
Participant 8	<ul style="list-style-type: none"> a. The main stream should understand that maritime is transportation which is land site or sea side operation; b. Invest and learn the maritime industry with few players adhering to international standards and laws (not local standards or policies) WTO; Maritime Organisation;

	<p>Maritime Law – carriage of goods and people) You have to be a signatory of these laws in order to be partisan into the maritime industry</p> <p>c. For an SMME's there are restricted opportunities since the sector is not regulated with South Africa since even water is the international asset.</p> <p>d. There are certain territories and radiuses that are set to govern the movement of ships.</p>
Participant 9	<p>a. Access to Cluster programmes;</p> <p>b. Provision of Capacity building;</p> <p>c. Introduction to the entire Industry value chain and business linkages;</p> <p>d. Access to local and international markets</p>
Participant 10	<p>The new entrants have to be tight down into the supply chain management. If the entrants are developed without an understanding of where the opportunities are those companies are doomed to fail unless they are linked to supply chain management. In this instance the back and forward linkages are critical.</p>

Table 5.26: Industrial clustering reduces transport cost

Participants	Responses
Participant 1	<p>If there is a set up infrastructure within reach, e.g. If the multimodal system is within reach from the port to the rail system and to the road and there is co-ordination within industrial cluster or within the same district then efficient transport system could contribute in reducing the costs of doing business. Therefore industries within the industrial cluster become competitive and are able to harness and factor the benefits into a price of a final product.</p>

Participant 2	<p>Bulk Ordering and transportation could reduce costs</p> <p>Production efficiencies</p>
Participant 3	<p>Companies when situated in the same vicinity tend to share transport, rental and operational costs.</p>
Participant 4	<ul style="list-style-type: none"> a. Bulk buying b. Advocating to share transport costs c. Reducing export costs by exporting together and involving TIKZN d. Bulk transportation using one transport system which could service the whole cluster
Participant 5	<p>Cluster members are able to share transport costs if there is a need to courier or distribute goods to a certain region.</p>
Participant 6	<p>Localisation of manufacturing, if the industries are located in vicinity there is no need to import raw material as logistic are available locally</p>
Participant 7	<ul style="list-style-type: none"> a. The major costs in logistics are transport; b. Planning and communication; c. Inventory management; d. Sharing slots; e. Having local supplier in order to cut inventory holding and thereby applying just in time and aggregate scheduling and dispatching; maximising the economies of scale.
Participant 8	<p>It will reduce cost in terms of supplying material, sharing the transport costs more especially if the cluster members are strategically located and therefore the costs are shared and the economies of scale are maximised.</p>
Participant 9	<ul style="list-style-type: none"> a. Sharing transport costs with other cluster members;

	<ul style="list-style-type: none"> b. The transport and logistics are generic benefits of the cluster; c. Sharing transport costs with other cluster members; d. Negotiate the reduced transport costs and use the savings to other business needs.
Participant 10	<ul style="list-style-type: none"> a. It is a concept that works easily if companies are closely located e.g. the Tibro Furniture and Design cluster as well as the automotive cluster which bring industries together, but with the virtual cluster you have to develop the systems that will bring transport efficiencies closer. It becomes very difficult if companies are widely dispersed unless using the existing freight system. b. The transport and logistics are generic benefits of the cluster; c. Sharing transport costs with other cluster members; d. Negotiate the reduced transport costs and use the savings to other business needs.

Table 5.27: The strategies that should be employed in order to increase production efficiencies within the cluster

Participants	Responses
Participant 1	<p>For productivity to increase production efficiencies there is a need to increase leads times which are critical for a product to reach the shop floor. If those leads times can be cut there could be a swift turnaround in terms of aggregate scheduling when the product is demanded and it could be readily available to be supplied to customers on time. This becomes an advantage for traders that coexist within the cluster. The KEIRESTU'S that exist within the short range or within the industrial cluster it enables the companies to shorten the lead times and harnessing</p>

	the economies of scale that could be productive in the short and long run.
Participant 2	To collaborate with private sector and other training institutions in training and skills development for cluster members to benefit
Participant 3	The clothing and textile cluster has got World Class Manufacturing and Benchmarking Programme .e.g. In this instance companies share information on production, how to reduce waste and also to provide training to its staff and cluster members. Market Access programme for showcasing cluster high end quality products locally or overseas.
Participant 4	To improve production efficiencies, market demands, and better automation by introducing new technology and sharing some of the tools and equipment.
Participant 5	Development of a turnaround strategy in order for the organisation to work better than it was yesterday.
Participant 6	If you are Demin or men's suit manufacturer, then you need to specialise (Specialisation Strategy)
Participant 7	<ul style="list-style-type: none"> a. Continuous improvement (KAIZEN) across various facets of the cluster; b. Setting high targets in order to maximise profits; c. Benchmarking against international best practices; d. Continuous assessment of the cluster and the board itself in order to strengthen the clusters capacity; e. Leveraging the country's bilateral agreements in order to maximise the opportunities such as exchange programmes or enhancing skill development.
Participant 8	<ul style="list-style-type: none"> a. Communication; b. Making quick decision; c. Making the availability of funds; d. Knowing the strengths of the cluster

Participant 9	<ul style="list-style-type: none"> a. To negotiate reduced transport costs on behalf of the cluster; b. To develop marketing strategies; reduce raw material costs; provide capacity building and its only then you will realise more member wanting to join the cluster.
Participant 10	<ul style="list-style-type: none"> a. Monitoring and evaluation; b. Adherence to policies (Financial; Procurement; Delegation functions; HR) c. Contracts are in place; d. Efficient System.

Table 5.28: Spatial location could improve productivity

Participants	Responses
Participant 1	The spatial location is a critical key factor or imperative. If a business is located within the cluster where it is easy to access the suppliers and the market and the cost of business is very low then that is competitive advantage in terms of productivity.
Participant 2	Maximisation of the economies of scale in terms of transport costs and reducing lead times
Participant 3	If companies are located in the same area of operation they tend to share transport costs, reduce lead times e.g. button and fabrics manufacturing industries could forge working relations in order to reduce lead times
Participant 4	<p>By getting raw material supply within the close proximity or from same premises and it could also reduce lead times</p> <p>The abundance supply of skilled labour within the cluster</p> <p>The improved shorter distances between cluster members</p>
Participant 5	Easy access to other related cluster members

	Needs are resolved spontaneously because of the close proximity
Participant 6	If you create work opportunities where people are living, that will reduce time for commuting for the employee and thereby increasing productivity and curbing late coming and absenteeism. (This calls for Planning)
Participant 7	<ul style="list-style-type: none"> a. It is important in order to reduce costs; b. Being more accessible; and c. Increase efficiencies
Participant 8	Improve competitiveness which could improve value chain efficiencies in just in time which will lead to reduce costs;
Participant 9	It could improve business only if the business is closer to the raw material since it will reduce transport costs and overheads; for example the logistic business and sawmills should be located near to forest in order to reduce costs and maximise the economies of scale.
Participant 10	In the Clothing and Textile cluster they are operating province wide (Virtual Cluster), members usually come to a central venue for meetings but at the same time some cluster members are struggling to make it to those important workshops since some companies are owned and managed by one person except for big businesses. This calls for multiple loads in term of the budget and costs of travelling. The only available option is the social media which talks to the reaching to the membership and industry ensuring that they maximise the benefits of being members of the cluster.

Table 5.29: Infrastructure being instrumental to maximise the economies of scale

Participants	Responses
Participant 1	<p>It is key and pertinent. If there is no easy access to raw material and to potential clients, this could increase the cost of doing business which a company could end up no being competitive. It has to be acknowledged that transport costs are one of the biggest contributors to the cost of production. If the transport costs are kept at minimum, companies could maximise profits and able to access more benefit.</p>
Participant 2	<ul style="list-style-type: none"> a. Reducing the rental costs b. Transport costs in terms of distance between the supplier and producer c. It also increases productivity
Participant 3	<ul style="list-style-type: none"> a. Sharing costs b. Shared facilities e.g. sharing equipment, communication, skills and knowledge
Participant 4	<ul style="list-style-type: none"> a. Good and efficient infrastructure makes production easy and more goods are produced b. Reduced operating costs such as marketing (Advertising as a collective and digital advertising) and distribution (trading online) c. Cluster could place adverts at its offices or even on the cluster vehicles d. Improved telecom in order to communicate system with local and international clients
Participant 5	<ul style="list-style-type: none"> a. Infrastructure provides a comparative advantage more especially if the music recording studio is close to its members b. The infrastructure also provides increased opportunities in terms of costs sharing, reduced overheads and rental costs.

Participant 6	The cost of transport and the transport system could make or break the cluster. If you plan to work 24 hours therefore poor transport system could cripple the production plan.
Participant 7	If it is shared then it will benefit cluster members (3D printer in the shipping company which is very expensive and it is seldom used and there is no need to own it)
Participant 8	It will assist in reducing input costs in order to produce quality products; improved technology and improved competitiveness. Companies could be able to leverage on opportunities. And maximisation OF ECONOMIES OF SCALES. It will assist in reducing input costs in order to produce quality products; improved technology and improved competitiveness.
Participant 9	The infrastructure could be able to maximise the economies of scale if the business is involved in the transportation then it will be able to transport the commodities in bulk.
Participant 10	Having a key location is very important. It is a driver for economic development e.g. the furniture cluster at KwaMashu then the enablers of the cluster is transport and logistics, then production efficiencies will improve when dealing with the local and international trade as well as dealing with the import substitutions. We are led by logistics and we need swift intervention in this regard.

Table 5.30: Strategies that are in place in order to increased local content

Participants	Responses
Participant 1	There are many challenges in the music industry such as Piracy and Speed - digital space and platform. For the local content to increase it is incumbent to the local producers to encourage the local customers to buy local and not to buy the pirated goods or

	<p>CD's as this scourge is crippling the music industry. In term of the local content if the suppliers/producers can sell the finished product at competitive prices, therefore customers will be able to buy at large quantities.</p>
	<p>Not having a finite mind set, as the world is operating in the global space, producers need to ask a question on what could be done in order to ensure that locally produced products are exported timeously at a cost effective tariff. Then producer could have the realisation of the increase of competitiveness of the industry cluster.</p>
<p>Participant 2</p>	<ul style="list-style-type: none"> a. To buy local b. To provide training to local people for increased local content c. To embark on the increase of design capacity d. Continuous improvement e. To provide incentives or other support measure such as reducing or subsidising electricity costs and rates
<p>Participant 3</p>	<p>To encourage industries to buy local material</p> <p>But it has to be noted that there are limited local manufacturers of fabric. There are companies who are taking a stance now to grow cotton locally.</p>
<p>Participant 4</p>	<ul style="list-style-type: none"> a. Increase capacity and have requisite skills at disposal in order to produce more quality content b. Design capacity and innovation is critical in driving the local content c. Embark on commercialisation of goods and services thereby increasing exports of the local content d. Promote and support business retention and expansion programme.

Participant 5	The recent amendments in the Intellectual Property Right Law which will give local producers and actors more opportunities related to ownership and licencing and also to increase local content as they will benefit in terms of royalties and airplay (80/20 and 90/10)
Participant 6	The design Issue, the cultural thing and technical this e.g. certain fabrics are not suitable for certain weathers especially in Durban it is very hot or ECZIMA
Participant 7	BBBEE code is in place in order to increase local content; Prioritising the increase of local content which is driven by Operation Pakisa which policy and strategic development.
Participant 8	For the service industry it easy but the manufacturing industries in the maritime it is difficult. The government it will dictate that they want 40% local content but for private sector there is no strict determination in terms of local content.
Participant 9	It issue of local content goes with various sectors; in the forestry and furniture sector it involves the innovation and modern design in order to be globally competitive. The local community will also buy and support local products since they will benefit in terms of the reduced prices and costs of production are reduced.
Participant 10	Local content is the essential stimulus for domestic sale or growth and for the development of the industry. Local content is an important issue though it is designated by DTI and there is a little focus on the local level and the push is to get more involved in terms of the Supply Chain Management and where we are on delivering 100% local content. The question is that whether the SCM practitioners understand the SCM policy mean.

Table 5.31: Issues of shortage of requisite skills

Participants	Responses
Participant 1	It has been always a pertinent issue. However continuous improvement and training is critical. For example training in intellectual property law; business management; financial management; artist management; publishing and other facets pertaining to music business. Training is one of the critical components that ensure quality skills and quality output.
Participant 2	<ul style="list-style-type: none"> a. To train b. To encourage youth to take up careers such Maritime studies which enormous opportunities.
Participant 3	There are trainings that are set to deal with the issues of shortage of skills. And there is an overseas programme to up skill local fashion designers.
Participant 4	<ul style="list-style-type: none"> a. Government should introduce skills programmes that is geared towards increasing production and productivity efficiencies b. The cluster should work closely with the Department of Education in order develop relevant or appropriate curriculums that are destined for certain labour market
Participant 5	<ul style="list-style-type: none"> a. Provision of Business Skills to Artist Managers, Publishers and to the musicians and producers b. Provision of funding where there are shortages in terms of requisite skills .e.g. District workshops
Participant 6	Skills transfer from other countries e.g. Import the skills and knowledge from Chinese (Technical Know How)
Participant 7	<ul style="list-style-type: none"> a. Gather relevant information regarding the requisite skills development; b. Private sector to play a critical role in ensuring industry support; c. Up skilling and technical know-how;

	<p>d. Provide the Recognition of Prior Learning;</p> <p>e. Provide mentorship in case of the shortage of skills;</p> <p>f. Ensure that at the tertiary level the curriculum should talk to the industry needs;</p> <p>g. Provide funding for those scarce skills</p>
Participant 8	<p>a. Working with theta (Transport SETA) will indicate the numbers of scarce skills;</p> <p>b. Working with Tertiary Institutions in order to encourage learners to choose maritime as a career of choice;</p>
Participant 9	Looking at the issues of training where there are shortages of skills and working with relevant SETA's.
Participant 10	Most of the clusters have got skills programmes for the very same reason. This is huge driver of the cluster programme maritime, textile and clothing, furniture, automotive have intensive programmes such as maritime institute, world class manufacturing and benchmarking as well as SETA's

Table 5.32: Employment of Advanced Technologies by Industrial Clusters

Participants	Responses
Participant 1	The globe has gone digital so either you adapt or rejected by the system. One of the imperatives that people vehemently denies is that technology is there to stay and make things better. For example, KZN has a State of the Art facility, the recording studio. It has been only learnt recently that the software has to be upgraded each and every year because technology changes every year. Currently, there are digital studios that are using advanced technologies. In keeping with these changes, the KZN institution had to ensure that a new digital desk was procured in

	a bid to increase productivity in terms of producing good quality products and stay afloat within the industry sector.
Participant 2	<ul style="list-style-type: none"> a. Advanced Technologies reduce costs b. Helps to increase productivity and to meet targets
Participant 3	Mainly for competitiveness the higher technologically the company is the more competitiveness the company will be.
Participant 4	<ul style="list-style-type: none"> a. In order to increase production efficiencies b. In order to be at par with the level of competitiveness with other related industries
Participant 5	<ul style="list-style-type: none"> a. The reason is that the world is living in a digital space therefore advanced technologies makes the world come closer to people. b. Digitisation of music and online distribution of music c. Piracy
Participant 6	Design issues, Only Woollies would carry the user friendly clothing in terms of body adaptability and medical sensitivity. Therefore advance technologies are required to produce such good qualities
Participant 7	<ul style="list-style-type: none"> a. To ensure that the cluster is globally competitive; b. Industry is efficient and c. Agile and innovative
Participant 8	<ul style="list-style-type: none"> a. Maritime is a global business; only sell your business if it is current, cheap, cost effective, and efficient in term of its productivity; b. Technology is the driver hence we need the advance manufacturing processes need mechanisation. We need to up skill our people in order to operate these machines.
Participant 9	<ul style="list-style-type: none"> a. To be able to produce large quantities at the short space of time; b. Saving on the labour costs;

	<p>c. Produce high quality products;</p> <p>d. Meeting and comply with the international standards such as SABS</p>
Participant 10	To keep industries being competitive locally and internationally and it makes the industry to build confidence in producing competitive products efficiently and understand to the technical know-how once they are acquired.

Table 5.33: Business Sustainability

Participants	Responses
Participant 1	<p>Sustainability is a key success factor for businesses to stay afloat. There has to be a short, medium and long term goals for industry clusters to sustain and succeed. In this instance partnerships are critical in ensuring that there are sound business relationships within the industry value chain. This will ensure that clients and suppliers as well as competitors are brought together in a bid to understand each other's needs. It is critical for the cluster to thinking ahead. For example operating local but thinking globally on what is happening around the world specifically to the neighbouring countries on what South African industries can produce and market.</p> <p>This calls for the short and long terms plans in order to ensure that industries co-evolve and are able to bring synergies in terms of understanding their core businesses and as to how to achieve the desired goals.</p>
Participant 2	<p>The individual companies also benefit from the pool of skills within the cluster</p> <p>Maximisation of the networking and thereby sharing the information in a bid to stay afloat of business.</p>

Participant 3	For them to keep on growing, change with times, market their businesses, embark on continuous improvement and compete with the international companies and stay relevant in business.
Participant 4	The partnership that have been created with other industry stakeholders makes my business to propel and sustain in terms of extracting benefits from other cluster members such as collaborative market access programme, funding, knowledge sharing, skills and capacity, business linkages, costs sharing on operations and business retention and expansion programme
Participant 5	The provision of the solid foundation (baseline information) and programmes such as Business incubation makes the emerging businesses to sustain beyond KUMISA intervention as well as handholding.
Participant 6	<ul style="list-style-type: none"> a. Passion b. Business Opportunities c. The economic down turn worked into our favour in turning things around and creating much needed employment opportunities (Creating turnaround strategies).
Participant 7	<ul style="list-style-type: none"> a. Provision of Mentorship; b. Thorough understanding of the industry; c. Having the relevant strategic partnerships; d. Having relevant resources i.e. Human and Financial resources; e. Efficient Management (Whether financial or human resources); f. Being able to deliver high quality and competitive pricing; g. Good Customer Relations; h. Training of staff in order to deliver quality service; i. Being able to plan accordingly e.g. delivering on time; j. Reliable and aggregate scheduling;

	<p>k. Knowing your target market;</p> <p>l. Being strategically located;</p> <p>m. Reduce transport cost in order to benefit customers and maximise the economies of scale; and</p> <p>n. Continuous improvement and innovation.</p>
Participant 8	To be on point in terms of meeting the current needs; being relevant; meet the needs of government and industry and clients in terms of creating jobs; attract investments; information dissemination and more so the issue of HDI's
Participant 9	The drive is to have access to markets; the reason is that business collapse because of the lack of market access without a market there is no business.
Participant 10	If the members are deriving the benefits, actual improvement in the business, there is a lot of enthusiasm, keeping yourself informed, designers becoming more sustainable within their space, finding new markets e.g. Space; Edcon markets makes members to be excited to derive sustainability within the cluster. The Clothing and Textile Cluster have a 5 S programme where members enjoy the benefit of sharing technology and visiting other companies such as changing production plan (Aggregate scheduling), cutting the loss material through smart cutting (the world class benchmarking exercise), increasing production efficiencies, decreasing lead times and delivering competitive products.

QUESTIONNAIRE – LICKERT SCALE

QUANTITATIVE RESEARCH

Please tick one of the boxes that hold your view. Each question has got 5 options to choose from: Strongly Agree; agree; Neutral; disagree; strongly disagree.

Industrial Clustering as tool to enhance competitiveness of the KwaZulu – Natal economy – South Africa						
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.1.	Government should initiate Industrial clusters					
1.2.	Industries should take an initiative in forming clusters					
1.3.	Government should play a facilitation role in supporting clusters					
1.4	Government should develop industrial policies in enhancing competitiveness of local firms					
1.5.	Government should set aside funding to support clusters					
1.6.	Government should develop a provincial programme dedicated for industrial clusters					

1.7.	Industry related sectors are encouraged to form clusters thereby benefiting from the cluster programme					
1.8.	Industries should show commitment before approaching government for support					
1.9.	Government should support industrial clusters with strong institutional framework in order to avoid mismanagement of resources					
1.10.	Industries already receiving support from government should be excluded from the cluster programme					
1.11.	Industrial clustering promotes the maximization of the economies of scale					
1.12.	Industrial clustering creates sustainable jobs					
1.13.	Industrial clustering promotes innovation/creativity					
1.14.	Industrial clustering reduces production costs					

1.15.	Industrial clustering promotes continuous improvement (Kaizen)					
1.16.	Industrial clustering encourages production efficiencies					
1.17.	Industrial clustering promotes new entrants to benefit from the large firms					
1.18.	Industries who produce related goods or services benefit if they are located within the spatial proximity					
1.19.	Industrial clustering encourages private public partnership					
1.20.	Industrial clustering encourages knowledge sharing					

DBA – QUALITATIVE RESEARCH QUESTIONS

Student No: 200501074

Candidate: _____ Date: _____

- Why it is necessary for government to establish industrial clusters?
- Why it is necessary for government to fund Industrial Clusters?
- How industrial clusters should be established?
- What are the necessary interventions the government should employ in supporting the clusters?
- What are the funding mechanisms available to support industrial clusters?
- What role should the government play within the cluster in ensuring future sustainability and growth of the cluster?
- What institutional framework should be adopted by government in supporting the industrial clusters?
- What are the causes and challenges that lead to industrial clusters to fail?
- What are the experiences that the cluster faced in accessing government support?
- How relevant is industrial clustering in industrialising the KZN province?
- What is the relationship between industrial clustering and organisational competitiveness?
- What are critical success factors that make the industrial clusters to grow or succeed?
- What role should private sector play in developing industrial clusters?
- What are the benefits of joining the industrial cluster?
- What role do you play within the cluster?
- Why do you think it is important to work closely with other industries within the value chain?
- What challenges or bottlenecks is your company faced with within the industry value chain?
- What are the available opportunities for new entrants (SME) to enter into the Industrial clusters (mainstream economy within the value chain)?
- How does industrial clustering reduce transport cost?

- What strategies should be employed in order to increase production efficiencies within the cluster?
- How spatial location could improve productivity?
- How could infrastructure maximise the economies of scale?

- What strategies are in place in order to increased local content?
- How do you deal with the issue of shortage of requisite skills?
- Why do you think it is necessary to have advanced technology employed?
- What keeps you into the business to sustain?

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Editor's Report



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Friday, 10 November 2017

To whom it may concern,

Re: Letter of confirmation of language editing

The dissertation **Industrial Clustering as a tool to enhance competitiveness of the economy of the KwaZulu-Natal Province, South Africa** by **MJ Moloi** was language and technically edited.

Final corrections remain the responsibility of the author.



Antoinette Bisschoff

Officially approved language editor of the NWU since 1998
Member of SA Translators Institute (no. 100181)

Precision ... to the last letter