

UNIVERSITY OF KWAZULU-NATAL

Title

**Factors influencing the acceptance of online training and qualifications in IT
Departments in KwaZulu-Natal**

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Abstract

Online learning is one of the fastest growing internet resources in the world today and it is expected to become the third most common use of the internet after email and searches. However, whilst the spend on online learning is in the tens of billions of dollars in countries like the United States and the United Kingdom, is this true in South Africa in general and in KwaZulu-Natal in particular?

In order to understand the attitude and factors influencing the use of online learning in KwaZulu-Natal, a sample of decision makers was selected from relevant companies in KwaZulu-Natal to provide responses to an online questionnaire. Their responses helped to understand the factors that affect the acceptability of online learning and qualifications in IT departments in KwaZulu-Natal. Relevant companies were identified as those companies that were of medium to large size and had a staff complement of at least one hundred people. The size of the company relates to the total staff complement, not just the staff who make up the IT department. Relevant respondents were also identified as those people who were decision makers within their business with regards to the recruitment and training of IT staff.

As limited research has been conducted in KwaZulu-Natal this study was a pilot study using a purposive sample of approximately fifty participants. Respondents were encouraged to suggest other possible candidates to answer the questionnaire. All in all, invitations to complete an online questionnaire were sent to fifty five participants.

Of the fifty five participants invited to take part in the study, forty five started the questionnaire and thirty nine completed it. Although there were six people that did not complete the questionnaire their answers to the questions they did answer were deemed relevant to the study and were included in the result set.

In analysing the responses of the sample it is interesting to note that online learning is still quite unknown in KwaZulu-Natal. In fact, although the respondents were all decision makers in their organisations, some of them had not considered the use and benefits of online training within their organisations. There also seems to be a systemic misunderstanding of what online training is.

One of the main goals of this study was to ascertain what can be done to increase the awareness and understanding of (not necessarily the use of) online training in KwaZulu-Natal.

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Acronyms and Terms

BPO	Business Process Outsourcing
CE	Continuing Education
CMS	Content Management System – a collection of manual or computer based processes and methodologies which help users to collaboratively manage work flow. (Kohan, 2010)
Cloud Computing	“Internet centric software” - Cohen (2008)
E-Learning	See Online Learning
HTML	Hypertext Markup Language
Inferential statistics	Results are analyses and extrapolated to derive a conclusion that described the population as a result of data obtained from the sample.
IT	Information Technology
LMS	Learning Management System - a computer based application for the administration, documentation, tracking, and reporting of training programs, training content, students and e-learning programs.
Online Learning	“The delivery of a learning, training or education program by electronic means. E-learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material.” – Stockley (2003)
PBX	Private branch exchange
SAAS	Software as a Service
VoIP	Voice over Internet Protocol
WYSIWYG	What You See Is What You Get

CHAPTER ONE

Introduction

1.1 Introduction

Continuing adult education (CE) is a very important requirement in most industries in the world today (Herbst, 2011). Advances in technology, process and methodology, and the socioeconomic environment are happening at a fast pace, and workers in most industries must continue to learn and adapt in order for them to remain productive and effective in their work place. It is also a business imperative that staff are continually trained, so that the business remains competitive and retains important personnel.

The need for continuing education is a common factor in many business sectors, but, in technological industries such as Information Technology (IT), it is non-negotiable if those businesses want to continue to compete effectively.

The world is very quickly becoming an online world (Friedman, 2005) and, along with other advancements, the way that training and education is carried out is also changing and evolving. There are many benefits and drawbacks to online training. This study aimed to determine whether businesses in KwaZulu-Natal are using this facility, and to establish the reasons why online training is or is not being used in the province.

1.2 Motivation for the study

South Africa suffers from a very poor employment rate (Statistics South Africa 2011). Structural unemployment, under-employment (where the worker is employed in a position that does not harness their true potential), and simple lack of opportunity has resulted in a very poor lower class. In order to alleviate the problems of structural unemployment, workers need to learn the skills required to fill job requirements. However, the best way for these individuals to learn is still to be established.

The advantages of online learning have opened up many opportunities in South Africa at school level, tertiary level and in the work place for people who are willing to learn but do not have the time or the money to embark on costly traditional means of learning. (about-elearning.com – 2011) However, South Africa appears to be slow to accept online training as

a solution to some (most definitely not all) of the most pressing needs facing it. The cause of this is something that needs to be determined.

With this in mind, it is suggested that the following stakeholders may benefit from the results of the study:

- Businesses that would like to train their staff and are thinking of using online methods.
- Staff looking to improve their knowledge and training in their fields.
- Adults looking to further themselves and either gain employment or change their career paths.
- Online training companies that will be able to use this information to better sell their products to companies in KwaZulu-Natal.

At the very least decision makers will have the benefit of reading this study to make a more informed choice as to whether or not to implement online learning in their organisations.

1.3 Focus of the Study

This study focused on companies in KwaZulu-Natal that have dedicated IT departments and who consider training to play an important role in their mandate. This was a pilot study to ascertain those factors that effect the acceptance of online training. Some of the key factors that were investigated are:

- The gender of the decision maker
- The age of the decision maker
- The industry sector in which the business operates
- The size of the IT department
- Whether the potential saving of scarce resources (time, money and productivity) are, in fact, considerations and benefits of online training
- Whether all roles within the IT department would benefit from online training.

The study targeted decision makers within the organisations as pertaining to staff training. Desired participants in the study were the IT Manager, the Human Resources (HR) Manager and the Training Manager. This study did not include staff or other people looking to learn

using online training, and did not examine the effects of online training once it was decided to make use of it.

1.4 Aim of the study

The aim of the study was to ascertain the variables that affect the acceptance and use of online learning and training techniques in IT departments in businesses located in KwaZulu-Natal, South Africa.

1.5 Objectives of the research

The objectives were as follows:

- To ascertain whether gender has an effect on the acceptability of online training and qualifications.
- To identify whether the age of the respondent affects their acceptance of online training and qualifications.
- To understand if the level of IT proficiency of the company (i.e. the business sector they work in) has an effect on their acceptance of online training and qualifications.
- To determine if participants believe that online training is a quicker and more time-efficient method of training than traditional training methods.
- To ascertain if smaller companies are more likely to make use of online training in the belief that online training is less expensive and less time demanding than traditional training methods.
- To understand if the level of qualification to be attained has any bearing on the likelihood that the company will accept that this qualification is to be achieved online.

1.6 Summary

This study investigated the factors that influence the decision by business to use online training resources or not. There are many purported advantages and disadvantages of e-learning, but are these the factors that decision makers consider when deciding on their training methodology. Chapter Two investigates the current research that is available on the topic, and tries to understand what current research has been undertaken in this field.

CHAPTER TWO

Literature Review

2.1 Introduction

Online training, online education and online qualifications are something relatively new to the education industry especially in South Africa. Falkenberg (2005) stated that “according to the American Society for Training and Development, only 6% of training in South African organisations is done via e-learning compared with 29% in the USA. South African companies should be following this global trend, yet they are hampered by a litany of cultural, technical, and cost constraints.”

Although correspondence learning is something that has been in existence since the 1700’s (Jeffries, 2011), online education has only become widely used as a viable alternative to traditional training since the mid 1990’s (Morabito, 2011). It is important to differentiate between distance learning; computer based trained (CBT) and true online learning. Distance learning can be done non-electronically and can be as simple as sending learning material through the post. In 1982, CALCampus was one of the very first companies to offer offline computer-based education for adults. CALCampus developed their computer based methodologies until, in 1994, they were able to offer the first totally online-based learning system (Morabito, 2011). The growth of online training in South Africa is significantly behind first world countries such as the United States and the United Kingdom (Falkenburg 2005), but, with recent changes to infrastructure and a changing social acceptance of online technology, South Africa is ready to enter into this realm

According to Lake (2011) “web based e-learning is expected to become the third most used application on the Internet after email and search.” Lake also states that, twenty years in the future, almost every scholar will have used online learning in some form or another. Lake also suggests that there is a strong belief that e-learning will eventually displace the classroom as we know it today.

However, although the infrastructure may be ready in terms of technology such as high speed internet and computer equipment, it needs to be determined if the people of South Africa in general, and in KwaZulu-Natal especially, are ready to accept online training methodologies.

2.2 The growth of a phenomenon

Lake (2011) wrote that the United States was already “spending approximately \$5m on online learning” in 2004. First world countries like the UK soon started following suit, but Lake questioned whether third world countries, like South Africa, would start to follow this trend. Lake also wrote that the growth of e-learning is as a result of the growing demand for training in general and “the demand for the benefits promised by e-learning. Greater demand is also fuelled by better e-learning solutions on offer.” Lake suggests that most large corporations have either tried e-learning, or are considering some form of e-learning. Unfortunately, in the late 1990s, when e-learning became the latest trend, some companies entered into the process in the incorrect manner and with the wrong intentions. Lake states that too many managers viewed online training as an automated solution to the training needs of the business which required very little input from themselves. This, however, caused motivational issues in staff who were unwilling to overcome the challenges that online learning presented. This contributed to the scepticism that many managers feel toward the concept of e-learning.

Training is a huge industry, however, and a business imperative. Therefore the benefits of online learning simply cannot be ignored by business. Cousins (2009) writes that “the cost of providing this type of training has become prohibitive as it requires of the learner to spend time away from the workplace combined with travel and accommodation costs.”. Lake (2011) maintains that “workable e-learning models would offer corporations massive savings and create efficiencies in training and general skills development.”

The reasons for the emergence of online education are numerous (Jackson, 2009) and include:

- Increase in communication speeds. Since the introduction of high speed internet by means of digital subscriber lines (DSL) in the early 1980’s (ADSL2+ - Upgraded Broadband 2009), the speed at which large volumes of data can be transferred over large distances has increased dramatically. This has made it possible to download various media such as video, sound files, large documents and presentations etc. from the business or home environment.
- The speed of change. Changes in technology, concepts, processes and ideas are happening at an ever increasing rate. This is especially true in the information industry (IT) due to the advent of open source, collaborative programming and online

source sharing. It is important to keep abreast of these constant changes. Not only do these new technologies offer efficiencies that could result in cost savings for your business, but they also offer competitive advantages that can be exploited. However, it is not feasible for companies to spend time and money sending their staff to courses and conferences. Therefore, online learning is a possible solution that could be explored.

- The acceptance of change. Along with the increase in the speed of change, the speed at which this change is accepted has also increased. In fact, change is not only accepted, but it is actively sought out and demanded by certain users. This acceptance has, in turn, resulted in an ever increasing speed of change. The acceptance of change has also led to a change in business processes, which includes the use of the internet to do all kinds of business, including training and education. However, it needs to be established if this acceptance of change translated into the way decision makers view online education and, if so, whether these facilities are being utilised by IT departments in South Africa.
- The advent of Web 2.0 or the interactive web. The interactive web is a fundamental change to the internet that occurred in the early 2000s. The basic change is that the web evolved from a “read” version consisting of static web pages containing text, pictures and other media to a “read/write” version where users can interact with the website itself and other users of the website. This can be done by means of blogs, comment boxes, social media and networking and so forth. The net effect is that the collaboration and interaction of participants allows for the free and efficient exchange of ideas that facilitates online education. Web 2.0 has been expanded further to Web 3.0 (also called the Semantic Web), which allows personalisation of data focused on the individual. This means that the web can be tailored to the user’s individual preferences and allow the user more control of their web experience. (Agarwal, 2009)
- The realisation by corporations and individuals that the need for continued adult education after school and university is imperative. The business world is highly competitive, constantly changing and constantly improving itself. Therefore, in order for a business to keep up with their competitors (or hopefully leap frog them), it is necessary to constantly re-skill their staff and help them to learn new things. This is a continual process that should occur throughout a person’s life, and traditional means

to accomplish this are very expensive and time consuming. Therefore, the internet provides an excellent avenue for adult-based training.

According to Carmichael-Brown (2011), “on-line training is growing exponentially and it is anticipated that worldwide, in the next 3 to 5 years, 70% of all training will be done on-line with the balance being provided in classrooms.” Carmichael-Brown also suggested that e-learning will become the third most used application on the internet after email and searching. Carmichael-Brown predicts that “on-line learning will grow to 40% of the worldwide spend on Higher Education Training by 2014, increase to 70% by 2018 and top the US\$ 600 billion mark by 2020.”

This phenomenal growth will almost force companies to seriously consider e-learning as a replacement for traditional means of training staff. This trend will also put pressure on traditional learning institutions, such as schools, universities, and corporate trainers, to expand their product offering to include some sort of online component if they want to remain competitive in the market place.

Carmichael-Brown (2011) attributes this trend to two primary factors. Firstly, there is pressure on businesses to ensure that productivity is kept at an absolute maximum. This means that companies cannot afford the luxury of sending staff away for a course for any given period of time – whether it is for three days or three weeks. As such, e-learning is becoming an attractive option for these businesses, as employees will not have to take time off from work to learn. They learn in their own time or at the same time as performing their duties in the work place.

Secondly, business is changing at an ever increasing pace. It is imperative that companies ensure that their staff members are kept up-to-date with developments in the industries, so as to remain competitive. Cross skilling staff and ensuring that they remain at the cutting edge of their field of interest is not only beneficial for the employee, but it is also beneficial to the company in terms of competitiveness, productivity and staff retention.

The move to online learning is a growing trend, and companies such as SkillCentric.com offer traditional training institutions the ability to convert all or some of their curriculum to an online platform. Skillcentric.com offers training companies a solution that “enables traditional training companies a way to convert part or all of their programmes to a branded online offering. Our partnership programme and “software-as-a-service model” allows

training companies to make this decision without the need for an upfront investment in technology.”

SkillCentric offers software-as-a-service (SAAS) functionality, which introduces cloud computing into online training. Cloud computing is a concept that has arisen as a result of the world wide move from in-sourced IT infrastructure and storage to out-sourced services. The National Institute of Standards and Technology (NIST) define cloud computing as “a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction” (NIST, 2011) A visual representation of cloud computing is provided in Figure 2.1.



Figure 2.1 Cloud Computing Visual Diagram. Adapted from bluemilecloud.com

As can be seen from Figure 2.1, all of the training information is stored in the “cloud”. The cloud is a central store of software, applications and data. The two major advantages of cloud computing that contribute to online learning are that the cloud allows for collaborative learning, and the cloud can be accessed from a wide variety of platforms wherever and whenever the trainee desires (Arno 2011).

In fact, Gartner (2008) believes that “cloud computing heralds an evolution of business that is no less influential than e-business.” Although Gartner describes cloud computing more in terms of software as a service, storage, and the potential to hire processing power, the value

of cloud computing to online training cannot be under-estimated. The two growing trends in the IT industry, e-learning and cloud computing, marry the best of the online world and business would be wise to adjust their strategy accordingly.

Despite the excitement in the industry surrounding online learning, there is still a great deal of scepticism as well. Lake writes that many expensive online training projects have been launched but have failed to realise the desired objective. Many, such as the Africa Drive Project which cost R60 million, have faded into obscurity. Lake also writes that “numerous corporations have expensive Learning Management Systems (LMS) sitting dormant.” This reputation of e-learning projects as being a waste of time and money may have negatively impacted on the growth and use of the technology. However, there are potential positives to the negativity surrounding e-learning. These positives include vendors being more circumspect in their product offerings, businesses conducting more research when considering e-learning, and an increased knowledge of the concept. Lake writes that “with the problems already overcome by predecessors, surely South Africa could take on e-learning in a more successful manner – learning from the case studies that have already been undertaken by our American and European counterparts.”

E-learning can also be directed at customers and suppliers. Lake (2011) writes that more and more customers and suppliers will be using the internet to learn about a business and to interact with that business. It would be useful if these people could have an online facility that will allow them to learn all they need to know about interacting with the business.

2.3 Advantages and disadvantages

The advantages and disadvantages of online learning are a much debated topic and this gives rise to many disparate attitudes toward e-learning. (about-elearning.com, 2011, Rimando 2011, Owens 2010) The advantages of e-learning are:

- The cost of training online is reduced, both in terms of time and money. This is due to the fact that travel, accommodation and food are not required.
- The work can be scheduled around the individual needs of the learner. Therefore, the learner can develop their own timetable and learn when it best suits them. Additionally, the training can be put on hold if needed and then returned to at a later point.
- The learner can choose the material that they feel most comfortable with to learn from.

- Learners can revisit the material as many times as they need in order to gain a better level of understanding. Often in traditional training the learner is forced to move at the pace of the lecturer and may miss some key elements.
- Interaction with a lecturer and a large peer group is facilitated through forums, bulletin boards and even chat rooms.
- E-learning caters for many different learning styles. Not everyone is comfortable with learning in a classroom environment, so online learning allows a more constructive means to learn.
- E-learning empowers the learner. Completing an online course builds a sense of achievement and pride in the learner.
- Learners develop other skills (especially skills in computer use) when learning online. These skills will also be advantageous to the individual and to the company that they work for.

Another advantage that is often overlooked is that online learning can be fun. Business intelligence specialist FrontlineSolvers state on their website that “online learning can be fun, is free to all our customers and partners and it saves 100% of the travel and attendance cost of a regular class.” (FrontlineSolvers, 2011) FrontlineSolvers ensures that their content is available whenever the trainee needs it. This accessibility is a good opportunity for people learning new skills but it can also be used for industry professionals to refresh their knowledge.

Whilst all these advantages may be valid, it is very important to consider the disadvantages of e-learning (about-elearning.com, 2011, Owens 2010) which are often overlooked. It is vital to consider the individual when considering online learning and some of the disadvantages to consider are:

- Many learners need the structure and routine of a classroom environment to learn. This is due to the fact that many people cannot be motivated to learn on their own and others may neglect their study because of other activities they deem more important.
- Resistance to change. Traditional methods of training have been in place for many years. E-learning is very different to these methods and learners may reject the idea.
- Although communication speeds in South Africa have been increasing recently, the cost of high speed internet is still high. Therefore, some businesses prefer lower

bandwidths and this can be frustrating and may cause some people to view e-learning negatively.

- People who are unfamiliar with computers may not benefit as much from e-learning as others.
- Many learners enjoy the social and networking aspects of the classroom environment and may therefore prefer this method of learning. Many people are motivated by their peer group and this may not be present when learning online.
- In traditional learning scenarios, the lecturer is always available and the learner has the opportunity to develop a personal relationship with this person. This is often not the case in e-learning.
- Simulation of some training may be difficult to accomplish online.
- Learning management systems (LMS) may be difficult to learn and might create an obstacle to learning.
- Some people enjoy the travel and time away from work that traditional training offers. These people may resent the company asking them to learn online and according to their own schedule, and their acceptance of e-learning may be negatively affected by this.

The disadvantages of e-learning were summarised by Lake (2011) who writes that “successful implementation of e-learning is still considered a rare achievement. Reasons include an incorrect approach taken (i.e. wrong technology); technological problems during rollout; lack of buy-in at line manager level; unsatisfactory organizational support; a lack of a learning culture; insufficient learner imperative to do the training; a lack of a rollout strategy including rules of engagement and policies; using different e-learning approaches for different courses, etc.” Many managers are reluctant to try e-learning because of these past failures.

There are many different kinds of online training. Miricle Solutions motivates for the use of online Excel Training and warns that the value of training within an organisation must never be underestimated. According to Miricle Solutions (2011), “in order for the staff of an organisation to continue to contribute meaningfully to the realisation of the strategy of the organisation they must have the skills that will allow the organisation to keep ahead of its competitors in an ever more complex business environment.” They further reiterate some of

the benefits of online learning by stating that online learning is more cost and time effective. They also state that online training reduces the time that key personnel need to spend out of the office and, ensures that their skills are available to the company. The thought of key personnel being out of the office for an extended period of time is a major obstacle to training within the organisation.

Miricle Solutions (2011) also addresses one of the main concerns of online learning. This concern is how the business knows if the training is effective or not. Miricle provides online evaluations of skill levels, and state that it is preferable that staff are evaluated prior to undertaking online Excel training.

2.4 Primary and secondary education

Online learning is not necessarily restricted to adult education. School education is also heading toward an online future. Online learning is being actively pursued by the government and, according to Pandor (2007), “in our country, we have a strong commitment to ICT in education. Bringing ICT connectivity to our schools and education institutions will and must happen. We are already piloting a dedicated education network called the EduNet that will connect all schools and make connectivity affordable to teachers and learners. It is a task that will occur alongside the provision of basic educational infrastructure.” Due to the increased use of computers at the school level, it is assumed that the current generation of school children will matriculate from high school with the skills and habits required to learn online. This is another reason why online learning is becoming so popular so quickly.

Universities and colleges in South Africa have recognised the trend and are also working hard at ensuring that some of their curriculum is offered online. The University of Pretoria (UP) (2011) states that continuing education is very important and cannot be underestimated. UP also offers career-focused courses presented online through the campus enterprise Continuing Education at University of Pretoria Trust (CE at UP Trust).

2.5 Continuing or further education

Onlineeducation.org (2011) defines continuing or further education as “post-secondary education that an individual can undertake to earn additional certifications and qualifications in a field or it might be required in order to maintain a license or certification in a specific field.”

The need for continuing education has been expressed in many industries. Christensen (2007) writes that “mature practitioners have a difficult time keeping up with the ever-expanding amount of information in the profession” and also points out that “it is impossible for dental students to be prepared for even a fraction of dental practice after the conventional three or four years of professional education.” This sentiment is a common one in many industries. Industries such as IT, law, accounting, engineering, medicine and many more agree with the sentiment that their professionals need to continually keep abreast of the changes and improvements within their sphere.

Wentzel (2009) writes that “for adults, continuing education is ongoing because of the need for frequent current career training or retraining for a new career.” He goes on to say that most adults do not remain in the same job during their lifetime. This is due to a number of reasons. Some jobs simply become obsolete because of improvements in technology or changes in how things are done. Some people may simply lose interest in their chosen careers and choose to embark on a new path. Regardless of why a person changes their job, the need for them to learn and educate themselves is very real. Unfortunately, many individuals find themselves in the position where they are unable to afford traditional education and cannot afford to leave their jobs in order to gain different skills.

Continuing Education (CE) is not a new concept. Schwartzman (1998) wrote that judges in Johannesburg have recognised the need for continuing education and, although the process has started, there is still much to be done to promote the continuing education of judges.

The emergence of the need for CE has not gone unnoticed by educational institutions in South Africa. The University of Pretoria (2011) states that “the importance of continuing education is something that cannot be underestimated. The University of Pretoria offers a number of career-focused courses (both scheduled programmes and customised in-house training) throughout the year.”

OnlineEducation.org (2011) states that “online education can also serve as a pathway for adults who are interested in improving their job performance or changing careers.” It is interesting to note that online learning is an excellent medium for continuing education and “nearly 60 million Americans used online resources to improve their knowledge.” (OnlineEducation 2011)

Jacowski (2011) writes that CE is important for three reasons:

- The more skilled a person is, the more productive that person will be.

- Staff retention and company competitiveness have been positively linked to continuing education.
- An educated workforce is seen as a more beneficial workforce, so companies have started to actively seek educated individuals and those individuals that are looking to educate themselves further.

Continuing education is not only beneficial to the business, but it is also beneficial to their staff. Jacowski (2011) states that “with the rapid advancement of the information technology sector, continuing education will not be confined to only physical space. Distance learning through interactive media will form a major part of continuing education. The internet will also play a huge role in delivering the course materials to the students.”

2.6 Are all disciplines conducive to online learning?

The website OnlineEducation.org (2011) identifies Information Technology as a discipline that is very dependent on continuing education. The rapid and constant changes within the industry ensure that professionals have to constantly learn and adapt so as to ensure that their skills and knowledge do not become out-dated and obsolete. Therefore it is essential for professionals in IT related fields to continue to learn to maintain their professional knowledge, and also to learn any new methodologies, concepts and so forth. Furthermore, all disciplines within the industry are subject to this constant need. This includes all disciplines that are related to the IT role within a business and this exercise can become a costly and time consuming one.

Ray (2011) writes that “the type of training is a big consideration in online learning.” This is a very pertinent statement and one that may seriously affect the decision making of companies. A company is a diverse synergy of skills, personalities and people and this must be borne in mind when considering e-learning. Learning an accounting process, a programming language or other theory based concepts is very different to learning managerial soft skills, call centre phone techniques or emotional intelligence concepts. Some courses can be learned at home in private, yet others benefit from face-to-face or intra-peer interaction.

Ray (2011) suggests that companies should define measurable objectives for any course that they would like to send their staff on. Asking themselves what they are trying to achieve and how they will know when this has been achieved is a useful tool in deciding on the training

technique to be used for a specific concept. Another important aspect that many companies try to understand is the difference in outcomes between online training and traditional means, and whether the value of online training is commensurate with the value of traditional face-to-face or classroom teaching.

Facilities are available to business to create their own online courses. Companies such as coursebake.com allow businesses to build their own online training facilities in an online concept that promises “content creation meets LMS meets training portal.” (Coursebake, 2011) This facility allows business to be in full control of the information and training that their staff can receive in online training. Content can be built and embedded on a page that can be accessed by staff members, with the same advantages that online training offers, but fewer of the disadvantages. Coursebake (2011) states that they provide “the web's first FREE online learning software that lets you create courses in a WYSIWYG builder, track and manage learners as well as courses and gives you a mini-site as your training hub.” WYSIWYG is a build concept also known as “What You See Is What You Get” and allows the trainer to build the training site in a visual and user-friendly manner. In this way, online learning can be in-sourced. A business can develop their own online learning platform and they can manage the content and the learners themselves.

Online learning is not only for businesses looking to expand the skills of their staff. Online learning can be done at very low cost and outside of business hours, so it is an excellent opportunity for individuals to broaden their own horizons. On their website, Siyandza Skills Development (2011), write that their “solution offers the ideal platform for corporations looking to broaden their existing learning solution or upgrade the skills of specific staff members. Online training courses are also the ideal solution for individuals who want to increase their skills and or knowledge.” Siyandza offers soft skills training, as well as IT training specifically for the Call Centre industry, but their offering is pertinent to many other industries as well.

Siyandza (2011) also raises an interesting point in that companies often understand that they need to continually train their staff to remain effective, but they do not train their staff effectively. “The problem identified was an often painful detachment between the training providers and their clients. Many businesses and training solution providers in the industry “train for the sake of training” (Siyandza 2011) and do not fully understand the intricacies of the soft skills training.” This ineffective training often leaves business disillusioned and negative towards training in general, and they may consider training a waste of time and

money. The potential benefits of online training, in terms of both cost and time saving, could help alleviate this feeling of wastage and, with proper research and consultation with training professionals; business may achieve a lot more from their online training programs than from traditional methods.

2.7 Platforms for online learning

Ray (2011) considers “the bleeding edge of online learning is mobile learning. Not just iPhone or iPad apps for the sake of it, but really using these devices and the connectivity they bring to the forefront.” Ray states that mobile technology is an attractive option to business. Staff members are able to use tablets, iPads, laptops, home computers and even mobile phones to do their training, and this can be done at any place and at any time. This is in stark contrast to traditional means of training, which are very restrictive in terms of time, place and how long the staff member must be there for. This mobility offers alternatives to managers who have very busy offices to run. However, Ray does point out that many managers may dislike the mobility of e-learning for the same reasons that others like it. Mobile learning platforms empower staff to take charge of their own training, and this takes away some of the control of the process that managers have previously enjoyed. This may be a negative aspect to the proposition, and managers may prefer to keep their staff where they can see them.

The Sloan Consortium allows for an interactive online learning experience through use of virtual attendance at conferences. According to an advertisement displayed on their website, attendees to the conference being held this year will be able to attend virtually. “The virtual attendee option provides the opportunity for individuals and institutions to attend select sessions of the conference via live webcast services provided by Mediasite. A selection of sessions will be broadcast live, including the keynote and plenary sessions, key interactive workshops, and numerous information sessions.” (The Sloan Consortium, 2011) Whilst the time and the length of the talks is fixed, this form of training eliminates travel and accommodation costs. For the organisers of the conference, this allows them to offer their services to a much larger pool of prospective attendees and does not limit the number of people allowed to attend.

A major benefit of this approach is that the material can be revisited as often as the participant likes. In fact on-demand access of all recorded sessions is provided to onsite and virtual attendees post-conference for one year. This is an advantage over one-on-one training for those learners that require more time to understand ideas, as it allows them to view the

presentation at their own pace, pausing if needed. The learner can also review difficult concepts repeatedly without being restricted to the pace of the other delegates.

2.8 Fear of the unknown and the dangers of a flooded market.

Online learning is a new concept in Africa (including South Africa) (Meyer and Bushney, 2011) where connection speeds and reliability have been an issue for business. In fact, The Economist (2009) referred to internet access as being “equally extortionate and maddeningly slow”. However, with the installation of the SEACOM cable, this is starting to change. According to the SEACOM website “SEACOM financed and developed the first broadband submarine cable system along the eastern and southern African coastlines, bringing with it a vast supply of high quality and affordable internet. Live since July 2009, SEACOM has seen more than 10 fold increases in bandwidth penetration in several of Africa's most underserved nations.” SEACOM services the whole of Africa and there have been marked improvements in KwaZulu-Natal. This ensures that access to online course and learning management systems is quicker and cheaper.

This has, however, presented at least two challenges to the growth of online learning. The first is the frequent problem that people are reluctant to change, especially when something is so different to what they are used to. Overcoming the fear and reluctance to change from traditional training methods to online learning is something that people are going to have to face sooner rather than later (Elliott, 2008). The second problem is that of sheer volume. The increased connectivity that is now available to South Africans brings with it a vast amount of online learning tools, in great varieties, all offering something different. Ray (2011) states that, “instead of a local (national) pool of options to choose from, online learning includes global companies into the pool of potential training resources.” Not only is there a vast pool to choose from, but each training provider offers different outcomes, certificates or accreditations and, most significantly, different prices. This makes choosing a provider very difficult and possibly instils a feeling of mistrust in the minds of the decision makers.

Not only are there many different sources of online training (Online Schools, 2011), there are also many different types of online training. Once again the volume may be quite daunting to the decision makers. The different types of training include text-based training (where the learner reads documents), avatar training in a virtual environment, slide shows, videos, simulations and many others.

Therefore, these impediments to the acceptance of online learning must be addressed before this training methodology can succeed in South Africa. But, one is quite unsure how far along this process companies and decision makers in KwaZulu-Natal have progressed.

2.9 The situation in KwaZulu-Natal

Although there are many resources available to businesses in KwaZulu-Natal, there is not much literature available on how the decision makers and recruiters in IT companies and the IT departments of businesses are availing themselves of this opportunity. Some questions need to be asked and answered. This study was conducted to ascertain whether companies in KwaZulu-Natal are moving with the times and have started to utilise online training resources for the benefit of their companies. This study also sought to understand if decision makers in business are aware of the opportunities available to them and, if so, what their reasons are for either using the resources or deciding not to use them. Chapter Three outlines the research methodology that was used to investigate the research questions.

CHAPTER THREE

Research Methodology

3.1 Introduction

This study targeted decision makers in business who are responsible for the training and recruitment of staff for their IT departments. This meant that the desired respondents would be part of the IT department itself or part of the Human Resources department, assuming that the training officer works for the Human Resources department. The desired respondent needed to understand the direction that the business would like to take in terms of training their staff, and also needed to understand the different training methodologies available, especially different IT training methodologies available for the different IT disciplines. As part of the questionnaire, the respondents were asked to comment on the suitability of online training for specific roles within the IT department.

3.2 Aim and objectives of the study

The aim of the study was to ascertain the variables that affect the acceptance, and use, of online learning and training techniques in IT departments in businesses located in KwaZulu-Natal, South Africa. The objectives were as follows:

- To ascertain whether gender has an effect on the likelihood of accepting online training and qualification.
- To identify whether the age of the respondent affects their acceptance of online training and qualifications.
- To determine if the IT proficiency of the company (i.e. the business sector they work in) affects their acceptance of online training and qualifications.
- To determine if participants believe that one of the key benefits of online training is that this method of training is quicker and more time efficient than traditional training methods.
- To ascertain if smaller companies are more likely to make use of online training in the belief that online training is less expensive and less time demanding than traditional training methods.

- To understand if the level of qualification to be attained has any bearing on the likelihood that the company will accept that this qualification is to be achieved online.

3.3 Target population and location of the study

The participants of the study were all companies that had an IT department in KwaZulu-Natal. This does not mean only IT companies, but all companies that have an IT department – regardless of the size of that department – and who conducted staff training. This was a pilot study that targeted decision makers in the recruitment and training of staff within the IT departments. This means that IT Managers, Training Managers and Human Resource Managers were approached to answer the questionnaire. It was necessary to obtain answers from this level of respondents because they were the people who made decisions pertaining to the use of online training methods. Additionally, these were the people who should already have investigated online training methodologies and made a decision about whether or not to use them.

3.4 Data collection strategies

The study was conducted using an online questionnaire designed and made available on Questionpro. Emails were sent to relevant people who performed the functions mentioned above for their companies. The questionnaire was made available for two weeks and the desired number of respondents was between thirty and forty individuals with a good mix of ages, genders, business sector and size of the IT team.

3.5 Research design and methods

3.5.1 The literature review

To better understand the concepts of online learning, computer based training and e-learning, a literature review was conducted to ascertain what information was available on these aspects, and also to understand what research had already been conducted in these areas. Chapter 2 focused on this research and outlined a few key areas in the field. The following aspects were discussed:

- The growth of the online learning phenomenon, the history of the concept and methodologies.
- The advantages and disadvantages of online learning.

- The concept of continuing adult education and the need for adults to continue learning to maintain their effectiveness in their chosen field. The need for continuing education is common in many industries, but it is especially necessary in information technology, the focus of this study.
- Whether all disciplines within the IT sphere are conducive to online learning and whether the type of person determines the type of learning that they should undergo.
- Different platforms for online learning. The speed of changing technology and business process is such that multiple platforms for online learning are available, despite the relatively recent emergence of the concept.
- Whether the fear of online learning – and especially the fear of change from traditional means to online means of learning - has had an effect on the acceptance of online learning in business.

Although the literature provided a very good understanding of the factors mentioned above, there is still very little written concerning online learning in South Africa, in general, and KwaZulu-Natal in particular.

3.5.2 *Qualitative versus quantitative research*

The advantages and disadvantages of qualitative and quantitative research is a much debated topic.

Quantitative research is the analysis of numbers and samples from a population (the size of which is generally known) to derive conclusions based on the responses of the sample set. (Business Dictionary, 2011)

Qualitative research is used to understand human behaviour, thought processes and reasoning behind decisions, trends and social observations. Therefore, in qualitative studies, a smaller sample is sought so that more in-depth analysis can be conducted on this sample. (Business Dictionary, 2011)

Although there are some quantitative aspects to this study, the main objective of the study was to understand the different thought processes and reasoning behind decisions to make use of online learning or not. With that in mind, respondents were specifically chosen who would provide the best understanding of these factors. This is called a non-probability sample which, according to the Organisation for Economic Co-operation and Development (OECD) (2002), is “a sample of units where the selected units in the sample have an unknown

probability of being selected and where some units of the target population may even have no chance at all of being in the sample.” Or, in more common terminology, “the non-random selection of a sample of producers and products based on expert knowledge or judgement.”

The ultimate goal of the expert sampling and the respondents chosen was to ensure that there was a large enough sample of industry professionals from different industry sectors. Whilst focusing on IT, the respondents were carefully selected to ensure that IT companies did not make up the bulk of the respondents, but that the major IT companies in KwaZulu-Natal were represented.

Another goal of this study was to set a foundation for further study. This study attempted to create an understanding of why decisions are made and when, and further studies can be used to determine a specific course of action in terms of using online learning strategies within business. This will be discussed further in Chapter Six.

3.5.3 Recruitment of study participants

Each respondent was specifically chosen because they had direct decision making responsibility for recruitment and training of IT staff. With this in mind, IT directors, IT managers, Human Resource managers and Training managers of a diverse range of companies were specifically chosen to answer the questionnaire.

Castillo (2009) states that there are five types of non-probability sampling:

- Convenience sampling – the sample is selected because it is convenient to the researcher.
- Consecutive sampling – this is the same as convenience sampling with the exception that it seeks to include all available members of the population that are accessible to the researcher.
- Quota sampling – the researcher selects subjects in proportion in terms of whichever quota is selected. Examples of quotas could be age, education, race, socioeconomic status and so forth.
- Judgemental sampling also known as purposive sampling – subjects are chosen by the researcher with a specific purpose in mind.
- Snowball sampling – the researcher asks their subjects to identify other potential candidate subjects to be included in the study.

Initially subjects for this study were chosen using purposive sampling. The respondents had to be decision makers in their organisations with the authority to determine company policy in the areas of IT recruitment and training. The subjects were also chosen to include a spread of ages, genders and business sectors. The subjects were also encouraged to identify other possible respondents and some of these were then included in the sample. This is an example of the use of snowball sampling.

3.5.4 Limitations of the research

The following limitations were identified:

- Large companies were chosen and only the size of the IT department was used as a criterion for differentiation. This may include decision makers when testing the hypothesis that smaller companies are more likely to turn to online training in an effort to save on the scarce resources of time and money.
- It was noted that some respondents had an opinion of online learning that was different to that of their company. Although every attempt was made to limit the possibility of bias when answering the questionnaire, there is a possibility that the respondent's personal opinion may have influenced their answers.

3.6 Piloting of questionnaire

The questionnaire was first given to a sample of ten IT industry experts to complete and to provide feedback and recommendations that could be used to improve the effectiveness of the instrument. The test questionnaire proved very successful and much was gained from the knowledge of the industry experts. Once the questionnaire was finalised and ready to be sent to respondents, the result set from the pilot was discarded, and none of the participants in the pilot were included in the sample for the finalised questionnaire.

Each respondent was specifically chosen as a person who had direct decision making responsibility for recruitment and training of IT staff. With this in mind, IT directors, IT managers, Human Resource managers and Training managers of a diverse range of companies were specifically chosen to answer the questionnaire.

The questionnaire was answered with the consent of the respondent, and with the understanding that they could withdraw from the study at any time. The purpose of the questionnaire was transparent and explained to the respondent prior to commencement. A checkbox was used to determine that the respondent understood and accepted the reasons for

the questionnaire. Additionally, the participant were guaranteed anonymity by not capturing the name of the respondent or the company for which they worked.

3.7 Analysis of the data

Initially, four information system (IS) models were identified by the researcher to guide the current study. These were the Technology Acceptance Model (TAM), the DeLone and McLean IS Success Model, the Fit-Viability Theory and the Unified Theory of Acceptance and Use of Technology (UTAUT). However, after careful consideration, the constructs and theories proposed in the DeLone and McLean IS Success model and the Fit-Viability Theory were considered to be the most appropriate for the current study.

- The DeLone and McLean IS success model – This model relates six dimensions that determine IS success. These dimensions are information quality, intention to use, user satisfaction, system quality, service quality and the net benefits associated with using the technology. Figure 3.1 illustrates the relationships between these six dimensions as per DeLone and McLean (2002).

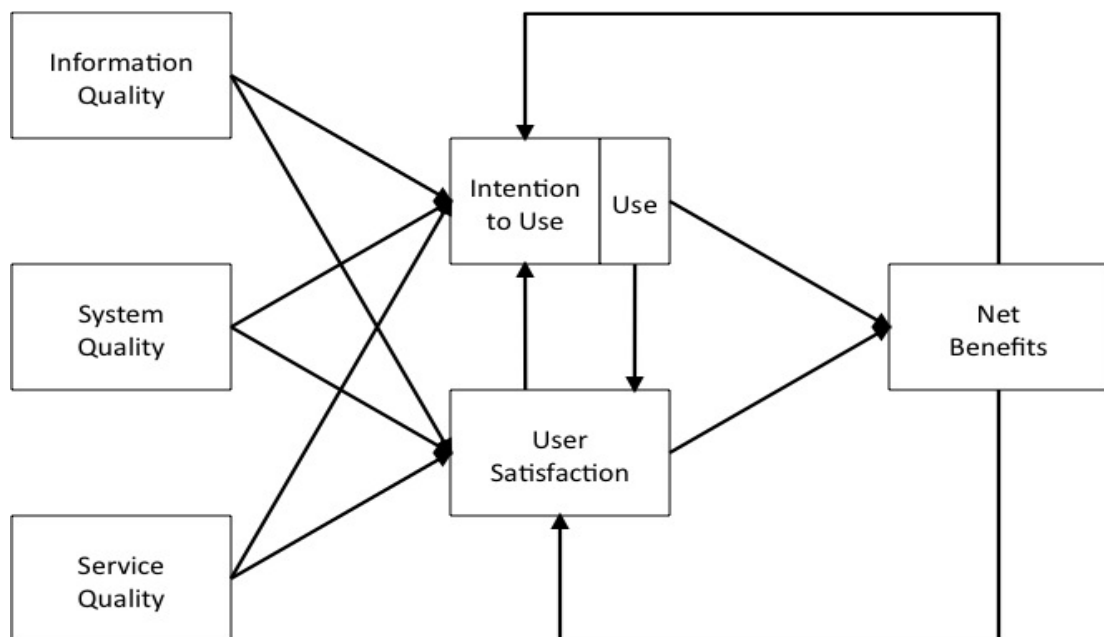


Figure 3.1: DeLone and McLean Information Systems Success Model (DeLone & McLean 2002, 2003)

As can be seen from Figure 3.1, the three drivers of the model are information quality, system quality and service quality. DeLone and McLean (2002) suggest that systems can be evaluated in terms of these three drivers and this determines the two factors of

intention to use and user satisfaction. These two factors then drive the net benefits associate with using the technology.

Using this model the researcher can determine the factors that influence the decision of whether or not to use online learning in terms of the three driving factors, information quality, system quality and service quality. Additionally, the researcher can determine whether the net benefits perceived by the users of online learning will drive further intention to use online learning and if these net benefits will ultimately drive user satisfaction when using online learning.

- **Fit-Viability Theory (FVT)** – The Fit-Viability Theory is a suitable model to analyse the acceptance of online training. The FVT was proposed by Tjan in 2001 and suggests that there are two main concepts that should be considered when assessing the performance of technology within a business. According to Tjan (2001), the viability of a proposition “captures the available quantitative data about an investment’s likely payoff” whilst fit “is qualitative; it measures the degree to which an investment dovetails with a company’s existing processes, capabilities, and culture.” The FVT is diagrammatically represented in Figure 3.2.

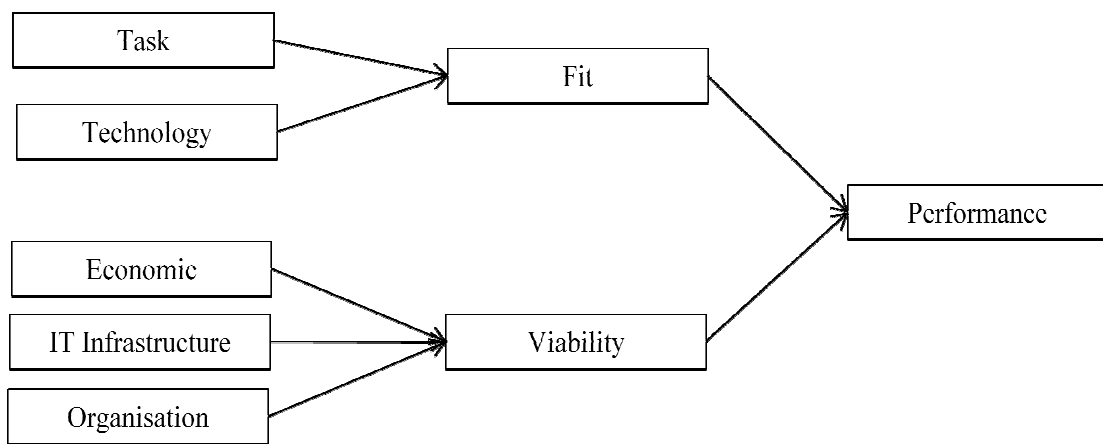


Figure 3.2: The Fit-Viability Theory (Liang 2007)

As can be seen, the fit of a proposition is measured by the task and the technology. That is, what the proposition is (in this case online learning) and what will be required to implement the proposition. The fit is determined but the combination of task and technology and how well this fits into the existing company dynamics.

The viability assesses the resources required to implement the proposition and the returns expected from the implementation.

Once the fit and the viability are ascertained, there are four possible strategies that the organisation can implement. These are to invest in the proposition, redesign the proposition, sell or spin out or kill the proposition. In the case of online learning there are three strategies. The business can invest in the current online learning proposition, they can seek other methods of online learning or look to implement an in-house solution, or they can abandon the idea altogether.

This model of IT acceptance was later used by Liang and Wei (2004) and Liang et al. (2007) when investigating the adoption of mobile commerce technologies. In this adaption of the model, the fit was assessed by comparing the features of the technology to the needs of the organisation, and the viability was assessed in terms of the organisation's readiness (in terms of infrastructure, economic feasibility and social readiness) to adopt the new technology.

3.8 Summary

As discussed, the DeLone and McLean IS success model and the Fit-Viability Theory were applied to the data gathered, so as to better understand what drives the decision making process of business in terms of online learning. The data gathered were not used to prove or disprove the models, but rather the models were used to better understand the motivation of decision makers. Chapter Four presents the results of the research and applies the theory to the dataset.

CHAPTER FOUR

Presentation and analysis of results

4.1 Introduction

In this chapter the results of the study will be presented in the form of frequencies or descriptive statistics. This will take the form of graphical representation and a description regarding results from the data set. Inferential statistics are then to draw conclusions concerning the population of IT Departments in KwaZulu-Natal.

4.2 Gender

The questionnaire was answered by 45 individuals. As indicated in Figure 4.1, 13 of these were female (28.89%) and 32 were male (71.11%).

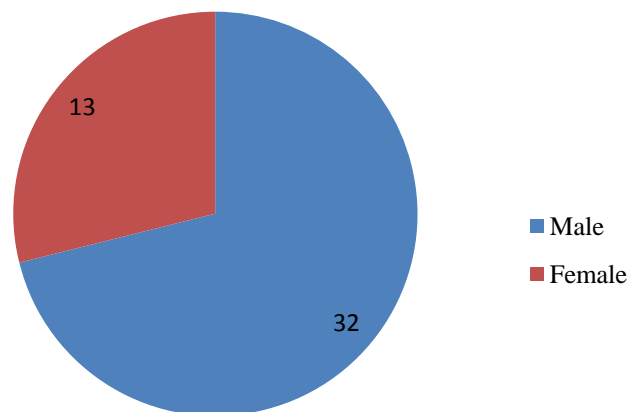


Figure 4.1: Respondents by gender

As can be seen, the number of female respondents was less than that of males. This is not particularly unexpected, as IT is a traditionally male dominated industry (Muthwa 2009). However, as the study included other disciplines within business such as human resources and training, the number of females is higher than expected.

4.2.1 *The effect of gender on the acceptance of online training*

The null hypothesis (H₀) is that males are no more likely to accept online training than females. The alternative hypothesis is that males are more likely to accept online training than females.

Respondents were asked to indicate their agreement with the statement: I am more likely to seek out online means for training my staff rather than relying on traditional training methods. Table 4.1 represents the answers broken down according to the gender.

Respondents	Male	Percentage	Female	Percentage
39	29	74.36%	10	25.64%
Strongly Agree	1	3.45%	1	10.00%
Agree	13	44.83%	4	40.00%
Neither	5	17.24%	1	10.00%
Disagree	9	31.03%	2	20.00%
Strongly Disagree	1	3.45%	0	0.00%
Haven't thought about it	0	0.00%	2	20.00%
Total	29	100%	10	100%

Table 4.1: Respondents by gender and likelihood of seeking out online training

Due to IT being a traditionally male-dominated industry (Muthwa 2009), the number of female respondents was only a quarter of the sample. However, the results gained from these individuals say much about the hypothesis. A full third of male respondents indicated that they either disagreed or strongly disagreed with the statement that they are more likely to seek out online means for training their staff rather than relying on traditional training methods. Of the females, only two in ten stated that they disagreed with the statement and there were none that strongly disagreed with the statement. A full fifty percent of the females questioned indicated that they either agreed or strongly agreed with the statement.

As a result of the data gathered, this hypothesis has been proven true. Males are not more likely to seek out online training than females and it would appear that gender has no bearing on the likelihood of online learning acceptance within an organisation.

4.3 Age

To understand the effect of age on the individual's acceptance of online training, the respondents were asked to select which age range they fell into. The results of this question are represented in Figure 4.2.

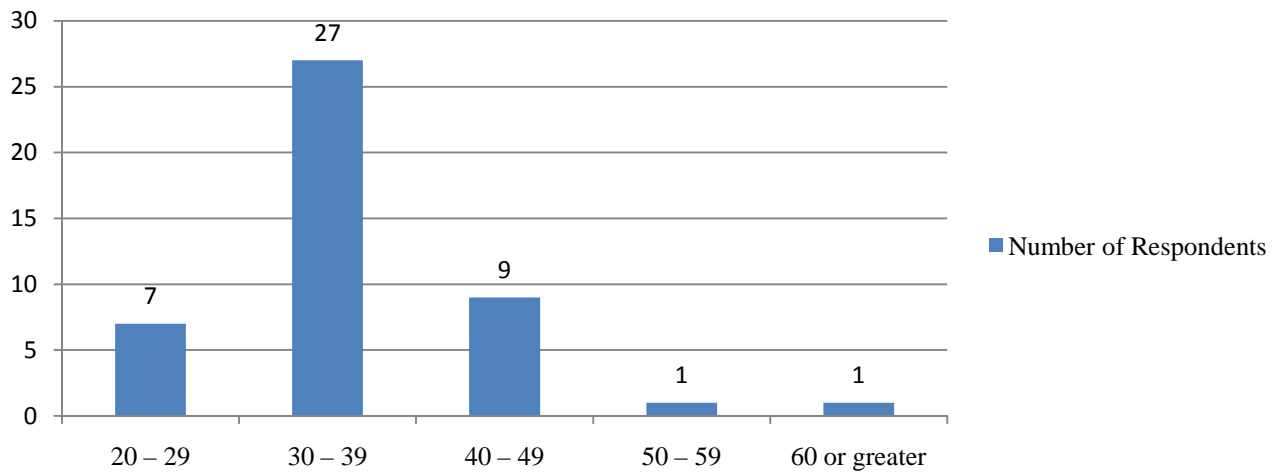


Figure 4.2: Respondents by Age Category

As evidenced by the results, the majority of respondents (36 out of 45, or 80%) were between the ages of 30 and 50. This is not unexpected at all. The questionnaire was aimed at IT decision makers in business. In order to achieve the status required to make business decisions within the organisation, it is necessary for a person to gain experience in their respective discipline and industry. As this takes at least ten years, it stands to reason that most respondents were over the age of 30. People in this age group would also have been introduced to IT much earlier in life. Due to this, these people may have decided to make IT their career.

It is interesting to note the number of respondents between the ages of 20 and 39 and this can be explained by the nature of the IT industry itself. As the industry is a relatively new one and is one that is always changing, younger people have a greater chance of excelling in the field and achieving recognition. Additionally, as the field is a new one, business leaders will look toward younger people to help them make decisions regarding the IT future of the business.

4.3.1 *The effect of age on the acceptance of online learning*

The null hypothesis (H0) is that there is no discernable effect of age on the acceptance of online learning. The alternative hypothesis is that younger people are more likely to accept online learning than older people.

Respondents were asked to indicate their agreement with the statement: I am more likely to seek out online means for training my staff rather than relying on traditional training methods. Table 4.2 represents the answers given to this question broken down according to age category.

Respondents	20 - 29	Percentage	30 - 39	Percentage	40 +	Percentage
39	5	12.82%	23	58.97%	11	28.21%
Strongly Agree	0	0.00%	0	0.00%	2	18.18%
Agree	3	60.00%	11	47.83%	3	27.27%
Neither	0	0.00%	4	17.39%	2	18.18%
Disagree	2	40.00%	7	30.43%	2	18.18%
Strongly Disagree	0	0.00%	0	0.00%	1	9.09%
Haven't thought about it	0	0.00%	1	4.35%	1	9.09%
Total	5	100.00%	23	100.00%	11	100.00%

Table 4.2: Respondents by age group and likelihood of seeking out online training

There was only one respondent each for the categories 50 – 59 and Greater than 60 so it was decided to amalgamate the result set into Greater than 40 as no conclusions could be deduced from only one respondent.

As expected, the vast majority of respondents were younger than forty. In fact twenty eight of the thirty nine respondents – or almost seventy two percent – were either in the age category twenty to twenty nine or thirty to thirty nine, and more than half of the respondents fell between the ages of thirty and thirty nine. This is to be expected as these are the individuals who would have had a lot more exposure to computers during their schooling and tertiary educations and, as such, would feel more comfortable seeking careers in IT related industries. In relation to the data at hand, there are two interesting points to consider.

Firstly, for those respondents older than forty year olds (11 respondents), only one had not considered online training at all. Of the remaining ten respondents, only two respondents strongly agreed.

As a result of the data gathered, this null hypothesis has been accepted. Age does not seem to have an impact on the decision of whether or not to use online training methods over traditional means of training.

4.4 Industry sector

This study investigated acceptance of online training in IT departments in KwaZulu-Natal. One of the hypotheses was that industries more involved with computer usage (in terms of personal and individual business use, not in terms of large-scale manufacturing computerisation) are more likely to accept online learning as a substitute for traditional means of training. To ensure that this hypothesis could be tested with a high degree of

reliability, it was necessary to ensure that the respondents represented a heterogenous pool of industry sectors. The results are presented in Figure 4.3.

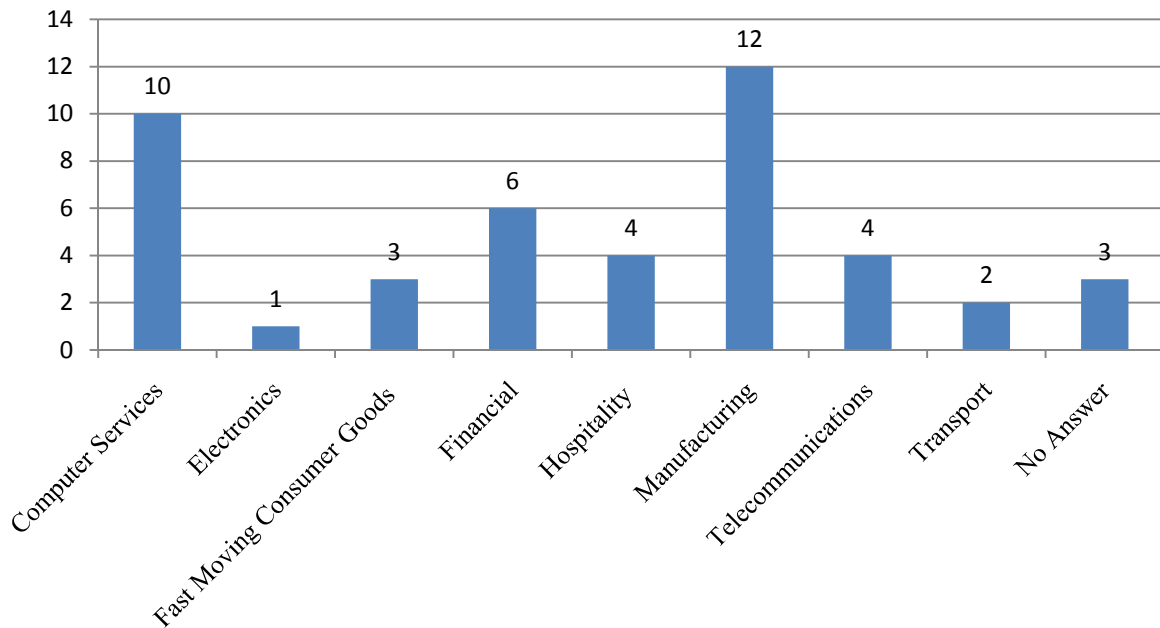


Figure 4.3: Respondents by Industry Sector

As can be seen, Computer Related industries (including Networking, Hardware and Software) comprised ten of the 45 respondents. However, this was not the majority. The majority of respondents came from the Manufacturing sector. Figure 4.3 shows that the goal of ensuring a large pool of industries was achieved.

4.4.1 *The effect of industry sector on the acceptance of online learning*

The null hypothesis (H0) is that companies deemed to be more IT proficient are no more likely to accept online training than those in other business sectors. The alternative hypothesis is that people in companies that are deemed to be more IT proficient (that is those companies in the computer services industry) are more likely to accept online training than those people in other industry sectors.

The respondents were asked to select from nine options, the one that best describes the industry sector that their company operates in. The options provided were:

- Computer Services including Networking, Hardware and Software
- Electronics
- Fast Moving Consumer Goods (FMCG)
- Financial

- Hospitality
- Manufacturing
- Telecommunications
- Transport.

Respondents were then asked to indicate their agreement with the statement: I am more likely to seek out online means for training my staff rather than relying on traditional training methods. Table 4.3 represents the answers given to this question broken down according to industry sector.

Respondents	Computer Services including Networking, Hardware and Software	%	Other	%
38	9	23.68%	29	76.32%
Strongly Agree	1	11.11%	1	3.45%
Agree	5	55.56%	12	41.38%
Neither	1	11.11%	5	17.24%
Disagree	2	22.22%	8	27.59%
Strongly Disagree	0	0.00%	1	3.45%
Haven't thought about it	0	0.00%	2	6.90%
Total	9	100.00%	29	100.00%

Table 4.3: Respondents by industry sector and likelihood of seeking out online training

For analysis purposes, it was decided to divide the data into two categories. Table 4.3 presents those respondents who work for companies in the computer services industry, and those in other industry sectors. Of the thirty eight respondents, roughly one quarter are in the computer services industry.

The first point to be noted is that, of those respondents in the computer services industry, two thirds indicated that they agreed or strongly agreed that they were more likely to seek out online training methods than traditional methods. Approximately forty five percent of respondents in the other industry sectors answered similarly.

The second point of interest is that only twenty two percent of respondents in the computer services industry sector indicated that they either disagreed or strongly disagreed with the statement, compared to the thirty one percent in the other sectors.

Therefore, the null hypothesis can be rejected. People in companies that are deemed to be more IT proficient are more likely to accept online training than those people in other industry sectors.

4.5 Number of staff dedicated to actual IT services and support

One of the benefits of online learning is purported to be a great saving of time. In lieu of this, one would surmise that the smaller the IT staff of a business, the more reluctant the decision makers will be to allow their staff to go away for training. Therefore, the hypothesis arose that, the smaller the IT staff contingent, the more likely it would be that the decision makers would turn to online training as an alternative to traditional training means. In order to test this hypothesis, it was necessary to ascertain the IT staff compliment of each respondent. Figure 4.4 displays the results from this question.

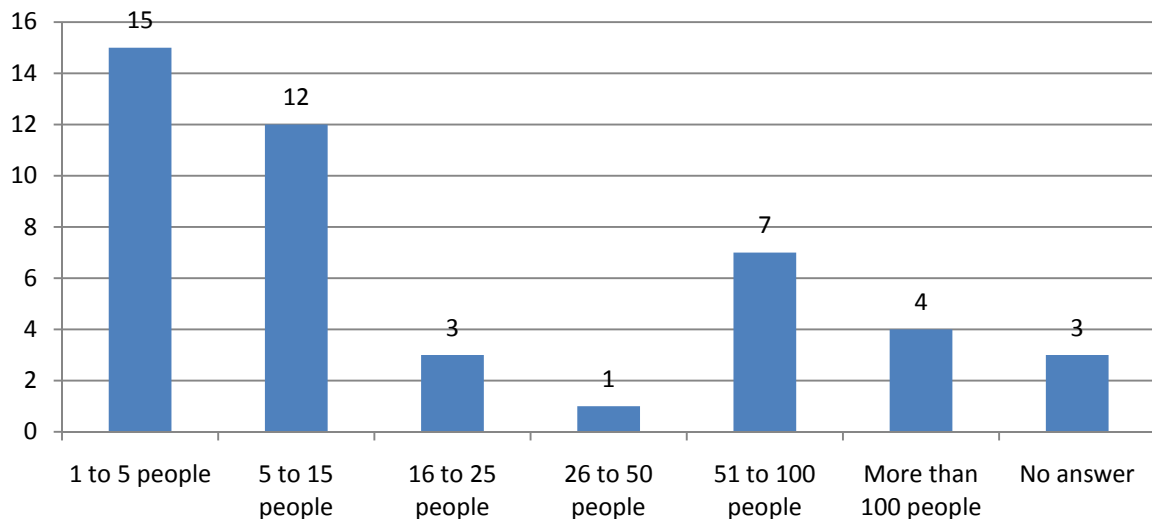


Figure 4.4: Number of companies categorised by staff dedicated to actual IT services and support

Seventeen of the respondents work in a business with fifteen or less dedicated IT personnel.

4.5.1 *The effect of the size of the IT department on the acceptance of online learning*

The number of people that work in an IT department differs from company to company. The null hypothesis (Ho) proposed that the size of the IT department has no impact on the decision to use online training. The alternative hypothesis is that the smaller the IT department, the greater the likelihood that the decision makers responsible for the training of that department would utilise online resources. This is due to the assumption that smaller IT

departments often have a smaller budget and are less likely to be able to spare the loss of productivity when sending senior staff for traditional training.

Respondents were asked to indicate their agreement with the statement: I am more likely to seek out online means for training my staff rather than relying on traditional training methods. Table 5.8 represents the answers given to this question broken down according to the size of the IT department.

Respondents	1 to 5	%	6 to 15	%	16 to 25	%	26 to 50	%	51 to 100	%	100 +	%
	39	13	33.33	11	28.21	3	7.69	1	2.56	7	17.95	4
Strongly Agree	0	0.00	1	9.09	0	0.00	0	0.00	1	14.29	0	0.00
Agree	4	30.77	6	54.55	1	33.33	1	100	2	28.57	3	75.00
Neither	2	15.38	1	9.09	2	66.67	0	0.00	1	14.29	0	0.00
Disagree	5	38.46	2	18.18	0	0.00	0	0.00	3	42.86	1	25.00
Strongly Disagree	0	0.00	1	9.09	0	0.00	0	0.00	0	0.00	0	0.00
Not sure	2	15.38	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	13	100	11	100	3	100	1	100	7	100	4	100.00

Table 4.4 Respondents by IT department size and likelihood of seeking out online training

As can be seen from Table 5.8, there were more respondents in the one to five category that disagreed with the statement than agreed with it. This category and the fifty one to one hundred categories were the only categories that displayed this pattern. All other categories had more respondents that agreed with the statement than disagreed with it. As a result, the null hypothesis must be accepted in that the size of the IT department has no impact on whether or not the decision makers seek out online training methods.

4.6 Considerations when recruiting

Online learning is an alternative to traditional training and education methods. However, in the IT industry, knowledge and training becomes obsolete and out-dated very quickly. Therefore, respondents were asked to rate how important different requirements are when recruiting new staff. Figures 4.5 to 4.11 depict the responses of respondents regarding the importance of the following seven criteria that are considered when recruiting new IT staff:

- Degrees
- Diplomas
- Certificates
- Relevant industry experience
- Course accreditations
- Online qualifications
- In-house aptitude tests.

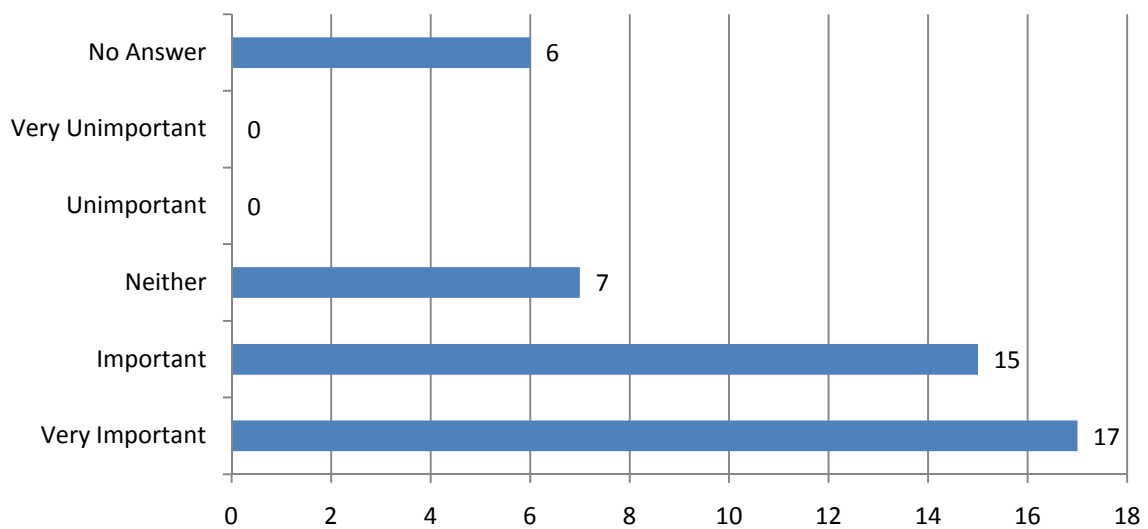


Figure 4.5: Importance of degrees when assessing the abilities of possible candidates

Respondents were first asked to rate the importance of degrees. More than 70% of the respondents said that degrees were either important or very important. This would indicate that degrees are an important factor when recruiting in KwaZulu-Natal. However, it would be interesting to ascertain if online degrees are given the same credence as traditionally achieved degrees. It is interesting to note that no respondents felt that degrees are unimportant or very unimportant.

Respondents were then asked to rate the importance of diplomas relevant to the IT industry in KwaZulu-Natal. Diplomas are awarded by more technical institutions, and they generally require less time to complete, but they are more practical based than degrees. (Garson, 2011) In this instance, almost 75% of respondents indicated that diplomas are important or very important considerations when recruiting IT staff.

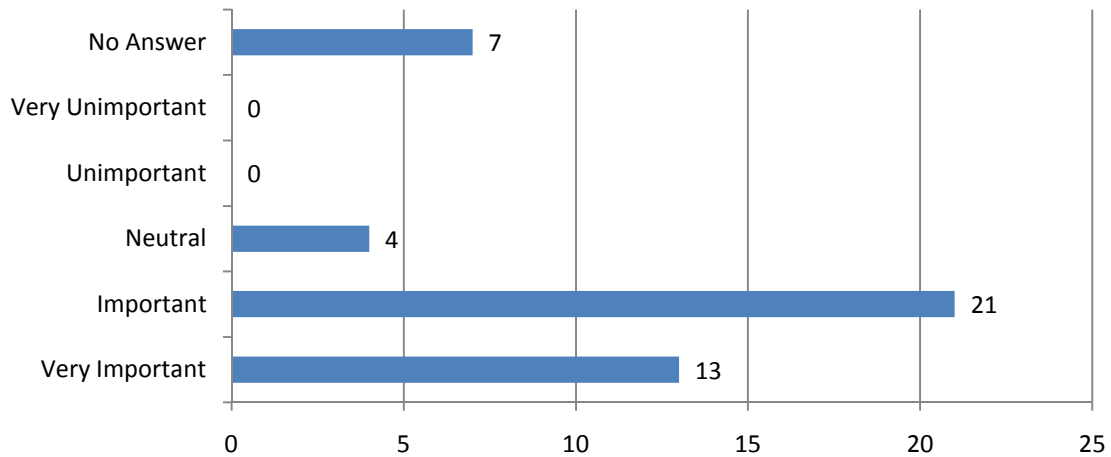


Figure 4.6: Importance of diplomas when assessing the abilities of possible candidates

Once again, no respondents answered that diplomas are unimportant or very unimportant. It is interesting to note that decision makers assign a slightly higher value to diplomas than degrees, and this might suggest that decision makers value more hands-on, practical skills.

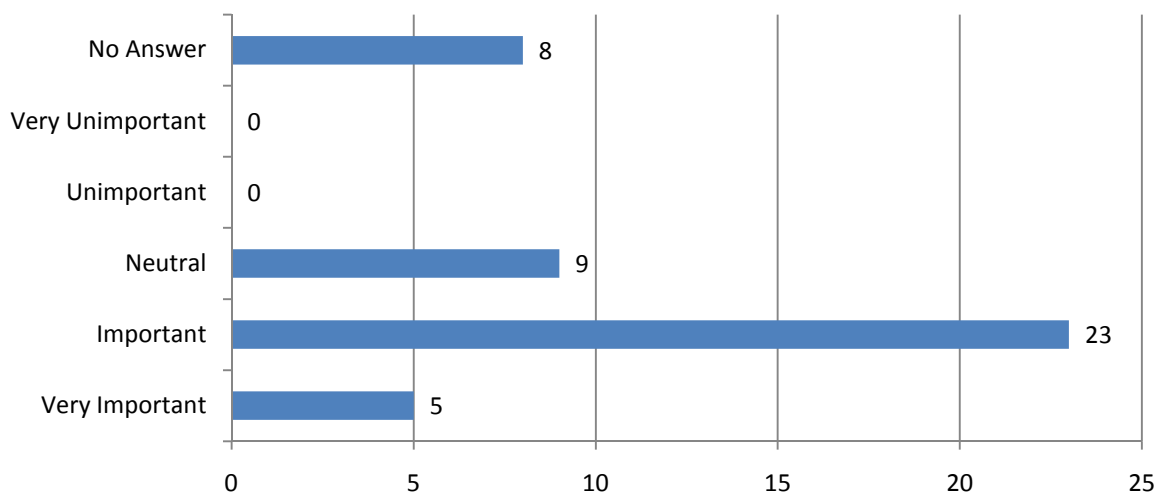


Figure 4.7: Importance of certificates when assessing the abilities of possible candidates

The next factor that the respondents were asked to consider was whether or not certificates were important when considering an applicant for an IT position. Certificates are awarded to people that complete a course and are tested on their knowledge of a specific product or task within an organisation. Examples include the Microsoft Certified Systems Engineer (MCSE), the Oracle Certified Professional (OCP) and certificates from Sun, Cisco and many other companies. Once again, certificates appear to be important as more than 60% of the respondents indicated that certificates are either important or very important. Also quite

notable is the fact that no respondents considered certifications unimportant or very unimportant.

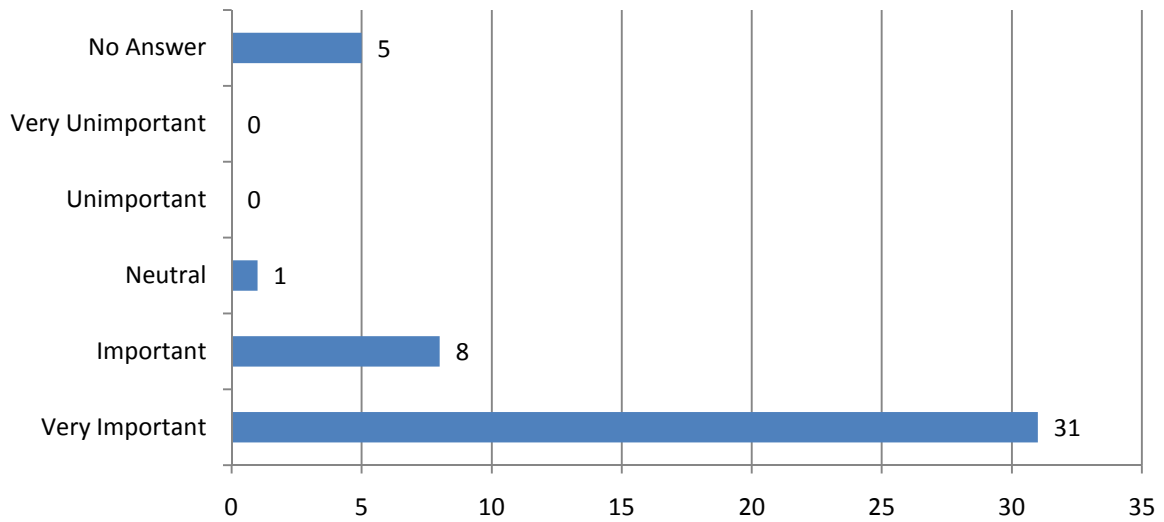


Figure 4.8: Importance of experience when assessing the abilities of possible candidates

IT is a practical and hands-on industry. It is, therefore, no surprise that almost 70% of respondents indicated that previous relevant experience in the field is very important when considering applicants for an IT position. Almost 86% of respondents believe that experience is either important or very important. This result indicates that the respondents believe that prior relevant experience is the most important factor when hiring new IT staff.

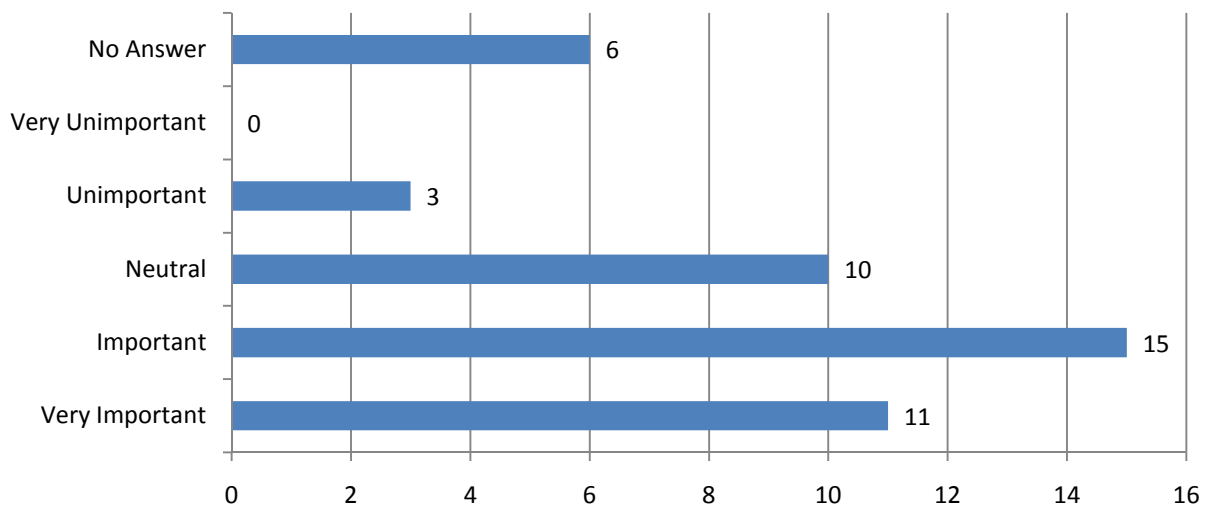


Figure 4.9: Importance of course accreditations when assessing the abilities of possible candidates

Course accreditations are different from course certificates in that they do not require a testing of knowledge in the form of an examination. Often the person on the course is given a certificate of completion or of attendance. So, whilst the respondent can prove that they attended the course in question, there is no certainty as to whether that person learned anything from the course. It is interesting to note that this is the first category which some respondents answered “Unimportant” to. Approximately 22% of the respondents also said that this category was neither important nor unimportant, but almost 58% responded that it was Important or Very Important.

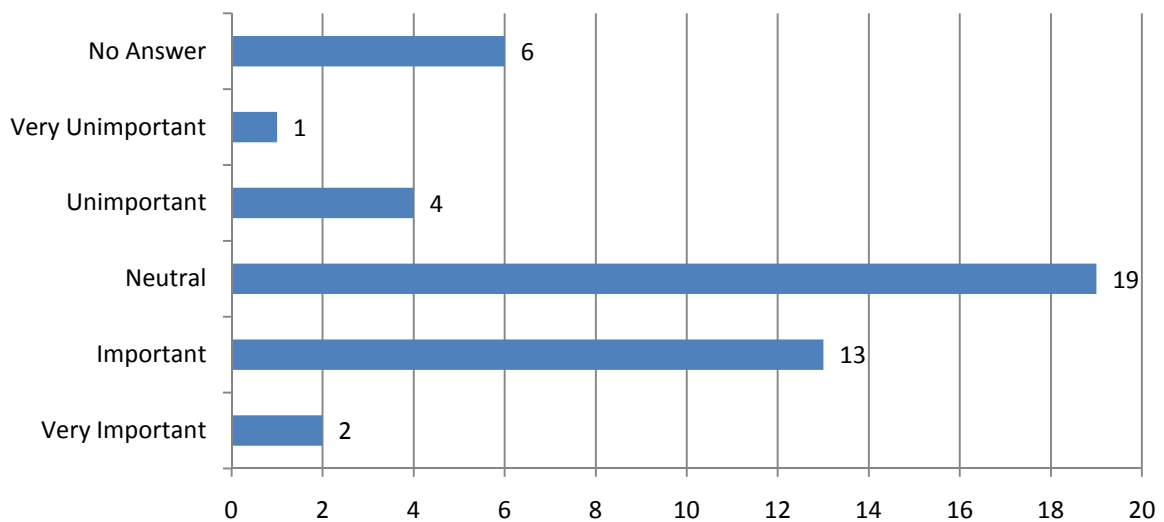


Figure 4.10: Importance of online qualifications when assessing the abilities of possible candidates

Online qualifications can take the form of online degrees, diplomas, certifications and so forth and it is interesting to note that the importance of, or the acceptance of, online qualifications is relatively minor to the recruitment decision makers within the organisations in the current study. More than 10% of the respondents stated that online qualifications were Unimportant or Very Unimportant and more than 40% felt by saying that online qualifications were neither important nor unimportant, indicating that online qualifications may be viewed with some suspicion by companies in KwaZulu-Natal.

Another mechanism that is very popular when recruiting IT staff is the in-house aptitude test. This test examines the applicant’s knowledge in specific areas that are deemed important to the specific business.

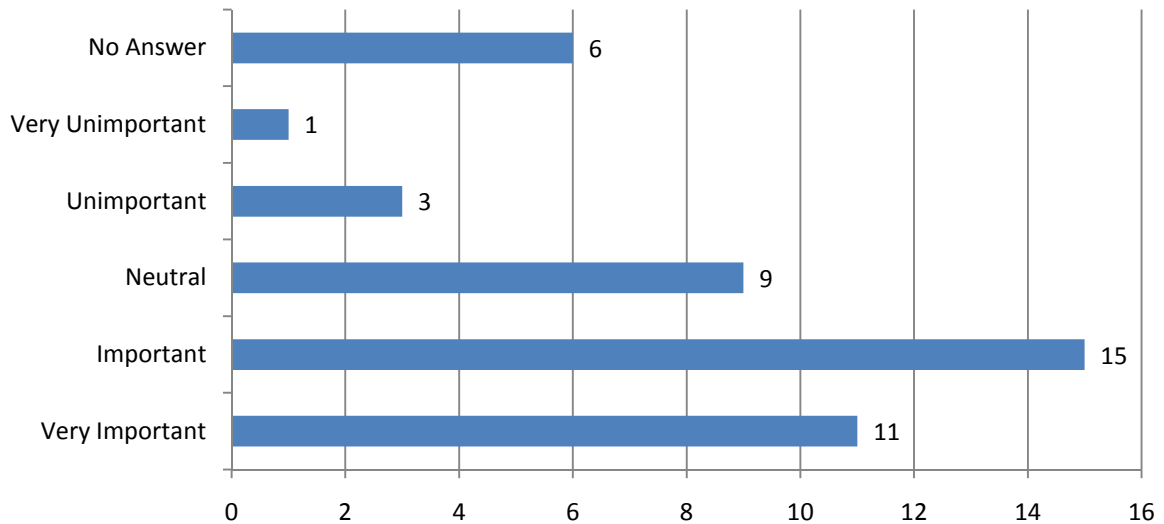


Figure 4.11: Importance of aptitude tests when assessing the abilities of possible candidates

In many cases this may be a test in a specific programming language, a test of networking and hardware ability, or even a case study to determine the soft skills of the applicant. There are, however, some businesses that prefer their candidates to have little prior knowledge, so that they can train them in-house in the manner specific to the business. In this way, business standards may be entrenched in the staff member and no “bad habits” will have to be trained out of the individual.

The reasons why so many IT departments feel the need to test the capabilities of staff that they interview in this manner is debateable, but more than 58% of respondents answered that aptitude tests are either Important or Very Important. In fact, almost a quarter indicated that these tests were Very Important, indicating that this is a very popular and trusted tools used to assess possible future staff members.

4.7 Likelihood of respondents to seek out online training methods

At this stage in the questionnaire, the respondents were asked how likely they were to make use of online training methods. The results can be seen in Figure 4.12.

It is interesting to note that very few respondents had strong feelings about this statement, with only 2.22% responding that they strongly disagree that they are likely to seek out these methods and only 4.44% indicating that they strongly agree with the statement.

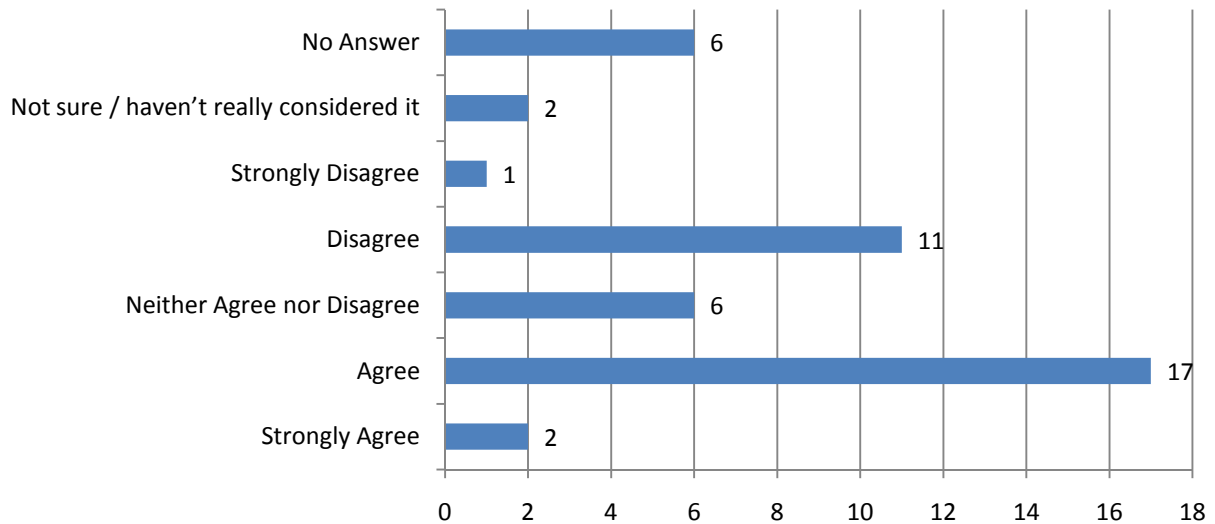


Figure 4.12: Likelihood of respondents to seek out online training methods

The results are weighted slightly in favour of those who agree that they are likely to seek out online methods, but there are enough respondents on the other side of the scale to indicate that the opinion of online training varies in businesses in KwaZulu-Natal. The factors affecting this variance are one of the aspects that this study attempted to uncover.

4.8 The impact of scarce resources on training within an organisation

In almost all organisations, training has always competed with the need for the highest productivity possible. Time is a very scarce resource, and any time spent out of the office at a conference or training is time spent not contributing to the productivity of the firm. The long-term benefits associated with training often override management's reluctance to send staff on training courses, but it needs to be established if there are times when training is neglected, simply because the time of key staff members cannot be lost.

Another carefully guarded resource within any organisation is, of course, money. The cost of training is very high and often the cost of the training is only a small portion of the full cost of the exercise. Accommodation, travel and food often form the bulk of the costs associated with training. Figures 4.13, 4.14 and 4.15 depict whether the scarcity of resources impacts on training, and whether decision makers feel that online training can minimise the cost of training.

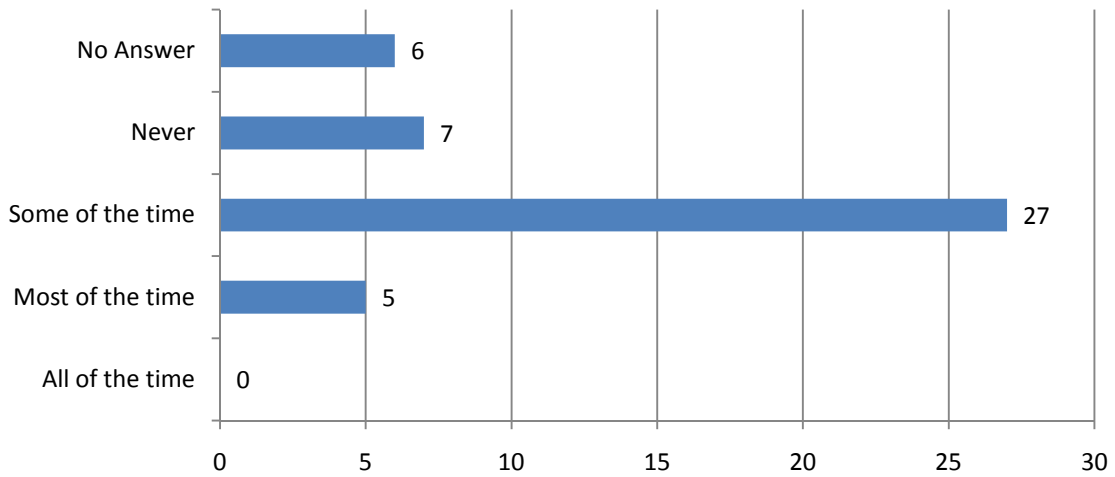


Figure 4.13: Is training ever neglected, rejected or cancelled due to time constraints?

The study attempted to ascertain whether staff training is not done because the business cannot afford to lose the time of key staff members. Training is vitally important in terms of maintaining competitiveness within an industry (especially in the IT sector) and has also been proven to help retain staff. Staff members feel that training courses help them develop personally and, therefore, feel happy that the company that they work for is contributing toward their personal development. Therefore, they are more likely to stay at their company. However, key personnel are often not given these opportunities because of time constraints. This is corroborated by the fact that 60% of respondents indicated that training is neglected some of the time and 11% indicated that training is neglected most of the time.

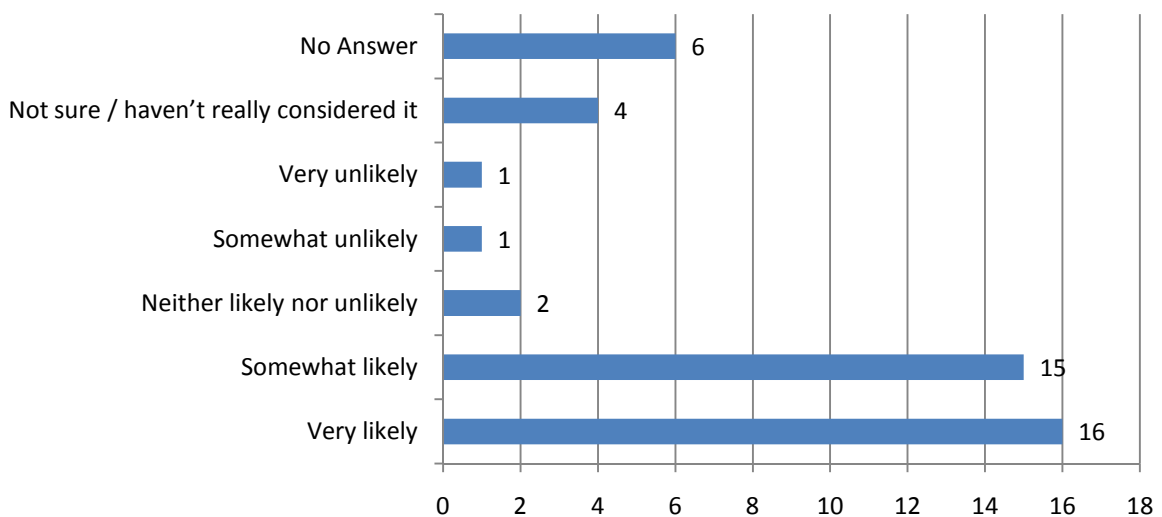


Figure 4.14: Likelihood of potential cost savings to influence use of online training

Respondents were asked if potential cost savings of online training would influence their decision to make use of this resource. More than two-thirds of the respondents indicated that it is either somewhat likely or very likely that potential cost savings would influence their decision. However, it is therefore necessary to understand if these respondents feel that online training is a more cost-effective option than traditional methods. Figure 4.15 presents the answers to this question.

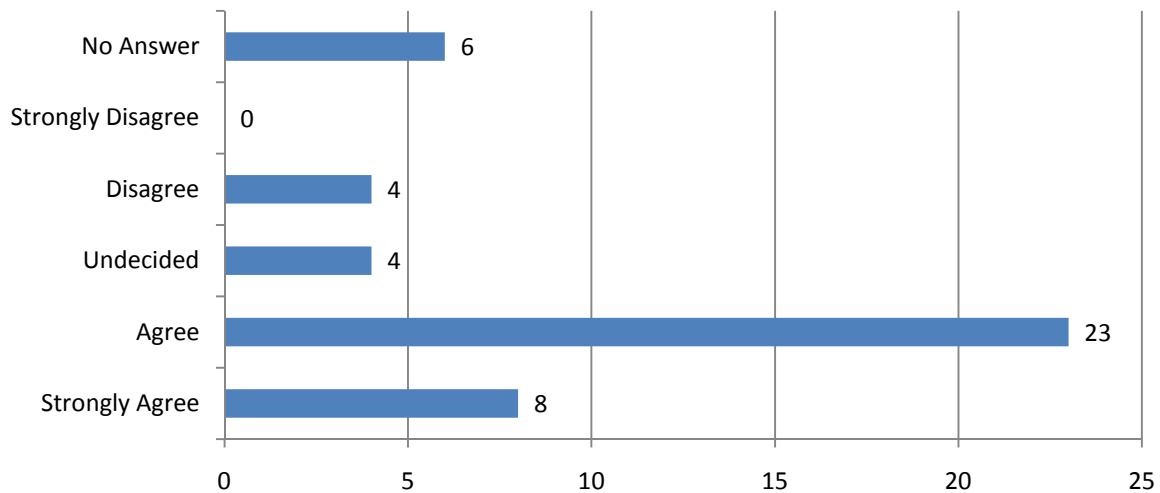


Figure 4.15: Online training can be done more cost effectively than traditional methods

As can be seen from the results displayed above, more than two-thirds of respondents felt that online training could help them save money in their training budget. The data, therefore, seems to indicate that the majority of respondents feel that online training can save them money and most of them would be likely to consider online training as a result of these cost savings. The respondents were then asked if they thought that online training is quicker than traditional means of learning and their responses are illustrated below in Figure 4.16.

More than 50% of the respondents indicated that they believe that online training can be done quicker than traditional training. Therefore, it would appear that the respondents believe that online training can save valuable resources in the business.

4.8.1 *The influence of the scarcity of resources on the acceptance of online learning*

One of the key selling points of online learning is that it can save time and money and that important staff members do not have to be absent from the office for an extended period of time.

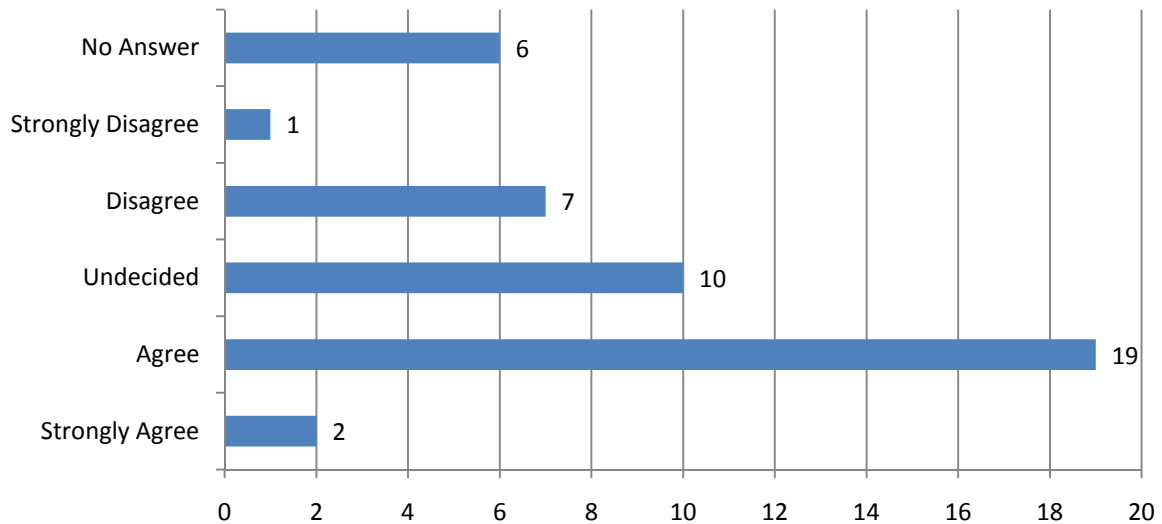


Figure 4.16: Online training is quicker than traditional training methods

However, do decision makers in KwaZulu-Natal companies believe this to be true? Therefore the null hypothesis (H_0) was proposed that scarce resources do not impact on the decision. The alternative hypothesis was that scarce resources will have an effect on the decision to implement online training methods or not.

In order to test this hypothesis, four further hypotheses were tested to understand the impact of the scarce resources (time, money and productivity) on online training decisions.

4.8.2 *Training may be neglected because companies cannot afford the absence of key staff*

The null hypothesis (H_0) was proposed that training is not neglected due to time constraints. The alternative hypothesis was that decision makers in KwaZulu-Natal believe that training is neglected due to the time constraints placed on the business and the staff member who is to undergo training.

To test the hypothesis, the respondents were asked if the training of staff is ever neglected, rejected or cancelled due to the time that the staff member has to spend out of the office. Table 4.4 illustrates the respondents' answers. More than eighty percent of the respondents indicated that time constraints impacted on the training of their staff at least some of the time.

Response	Respondents	Percentage
Most of the time	5	12.82%
Some of the time	27	69.23%
Never	7	17.95%
All of the time	0	0.00%
Total	39	100.00%

Table 4.5: Responses to the question of neglected, rejected or cancelled training

Therefore, the null hypothesis can be rejected in that decision makers in KwaZulu-Natal believe that training is neglected due to the time constraints placed on the business and the staff member who is to undergo training.

4.8.3 *Is online training seen to be quicker than traditional means of training?*

The null hypothesis (Ho) was proposed that they do not believe that online training is quicker than traditional methods. The alternative hypothesis was that decision makers in KwaZulu-Natal believe that online training is quicker than traditional training methods.

To test the hypothesis, respondents were asked if they agree with the statement that online training is quicker than traditional training methods. Table 5.5 illustrates their answers.

Response	Respondents	Percentage
Strongly Agree	2	5.13%
Agree	19	48.72%
Undecided	10	25.64%
Disagree	7	17.95%
Strongly Disagree	1	2.56%
Total	39	100.00%

Table 4.6: Is online training is quicker than traditional methods

Fifty four percent of the respondents indicated that they either agree or strongly agree with the statement that online training is quicker than traditional means. The fact that a quarter of the respondents were undecided on the question illustrates that not many companies have had experience with online training. This is corroborated by the fact that, when asked how satisfied they were with previous online training (if any), thirty five percent indicated that they had had no experience with online training. (Figure 4.19)

Only one respondent in five either disagreed or strongly disagreed that online training is quicker. As a result, the null hypothesis should be rejected in that decision makers in business believe that online training is quicker than traditional training means.

4.8.4 *Is online training seen to be more cost effective than traditional means*

The null hypothesis (Ho) was proposed that the decision makers do not believe that online training is more cost effective than traditional means. The alternative hypothesis was that decision makers in businesses in KwaZulu-Natal believe that online training can be done more cost effectively than traditional means of training and that this is likely to influence their decision when considering online training.

In order to test this hypothesis, respondents were asked if they believed that online training is more cost-effective than traditional methods. The respondents were then asked how likely potential cost savings on online learning were to influence their decision to use such methods. Tables 4.6 and 4.7 depict the responses that were received for each of these questions.

Response	Respondents	Percentage
Strongly Agree	8	20.51%
Agree	23	58.97%
Undecided	4	10.26%
Disagree	4	10.26%
Strongly Disagree	0	0.00%
Total	39	100.00%

Table 4.7: Online training is more cost effective than traditional methods

Almost eighty percent of respondents either agreed or strongly agreed that online training is more cost-effective than traditional methods.

Once again, almost eighty percent of the respondents indicated that the potential cost saving of online training is either somewhat likely or very likely to influence their decision to use such training. (Table 4.8)

As a result of the responses to these two questions, the null hypothesis can be rejected in that decision makers believe that online training is more cost effective than traditional means of training, and that this is likely to influence their decision when considering online training.

Response	Respondents	Percentage
Very likely	16	41.03%
Somewhat likely	15	38.46%
Neither likely nor unlikely	2	5.13%
Somewhat unlikely	1	2.56%
Very unlikely	1	2.56%
Not sure / haven't really considered it	4	10.26%
Total	39	100.00%

Table 4.8: Likelihood of potential cost savings on online learning to influence the decision to use such methods

With regard to the effects of money, time and productivity on the decision to use online learning, the null hypothesis can be rejected in that scarce resources do have an effect on the decision to implement online training methods.

4.9 Online learning resources

One of the attributes of online resources is the overabundance of these resources. This is true for online training resources as well. A simple Internet search for online training or e-learning results in more than two hundred million hits each. This flood of availability has inherent dangers:

- It might overwhelm possible users of the tools
- It may result in scepticism on the part of business
- The failure of one resource may impact on the credibility of others

However, the abundance of resources also has advantages. Research is absolutely imperative for any online training proposition and reputable institutions have taken great care to ensure that their offering is credible and has proven results. Figure 4.16 depicts the type of online training that decision makers would consider for training their staff.

As can be seen in Figure 4.17, respondents are more likely to consider reputable companies and institutions when considering online training. Corporations such as Oracle, Microsoft, Cisco and Sun Microsystems all offer online training and learning facilities, and these are trusted by business. Additionally, recognised learning institutions such as universities or other tertiary institutions are also trusted by business.

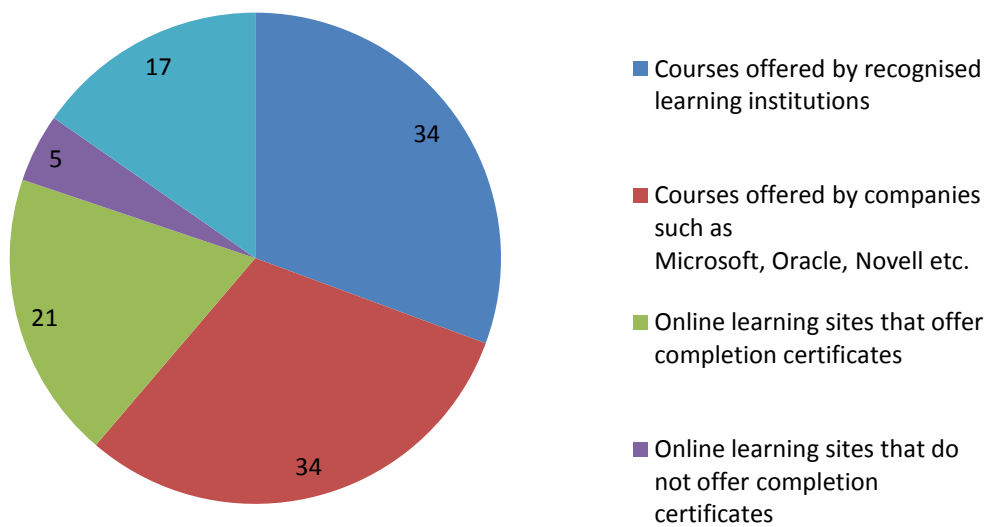


Figure 4.17: Means of online training considered by respondents

It is interesting to note that informal learning is more than three times more highly regarded than online learning sites that do not offer completion certificates. As previously stated, however, online learning is still a very new idea in South Africa and the marketing of these facilities is still lacking. Although there are many online resources available to business, it needs to be established how many businesses know about them and how they came to know about them (Figure 4.18).



Figure 4.18: How respondents became aware of online learning resources

As expected, there are some businesses (6) still unaware of the online learning resources available to them. Additionally, less than half of the respondents learned about online

facilities through advertising or word of mouth. Most of the knowledge of online facilities comes from either personal research or having been approached by staff who would like to participate in online training.

4.10 Reaction from those who have used online training

The assumption was made that some of the respondents would have had previous experience with online training. This experience would either be personal learning or experiences of a staff member having undergone some form of online training. Figures 4.18 and 4.19 depict levels of satisfaction with previous online learning experiences, and the confidence in the abilities gained from these experiences.

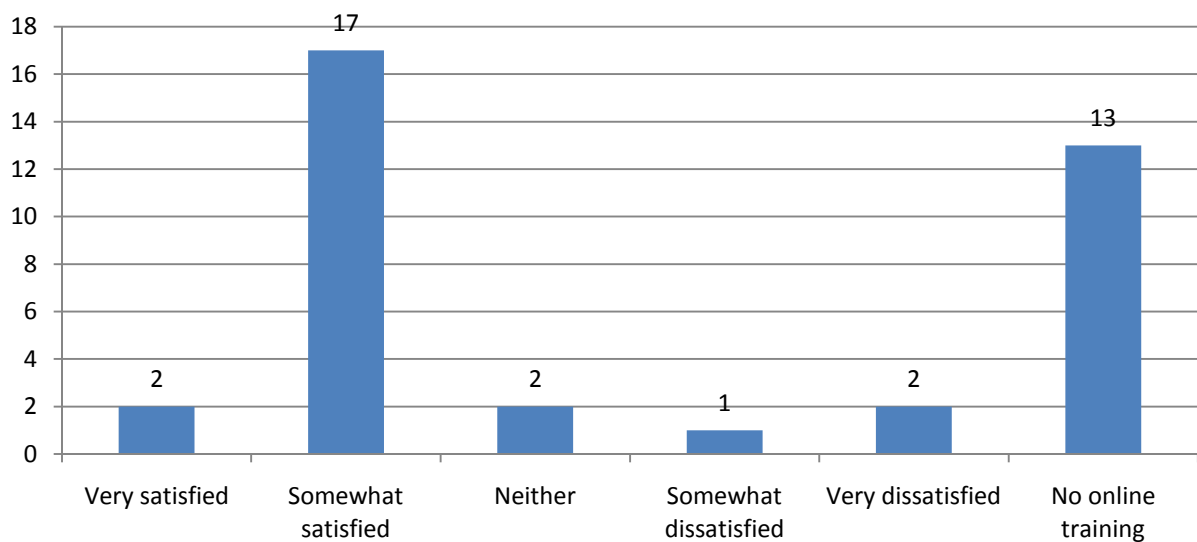


Figure 4.19: Respondent satisfaction with previous online training experiences

Of the 65% of respondents that had experience with online learning, approximately 80% were very or somewhat satisfied. The vast majority of these, however, were only somewhat satisfied. An equal number of respondents were very dissatisfied and very satisfied (5.4%) and this is interesting as the reason behind these opposing views could be the choice of online resource.

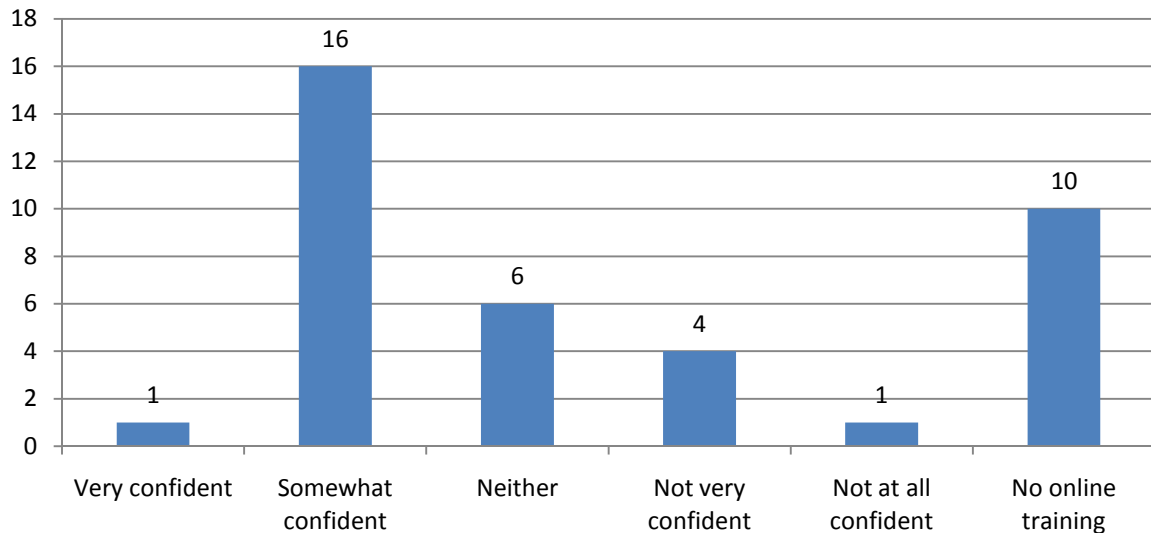


Figure 4.20: Respondent confidence in abilities gained from online training

The respondents were then asked to indicate their level of confidence in the abilities gained from online training. Of the 74% of the respondents that had experience with online training, 60% indicated that they were either very confident or somewhat confident in these abilities.

4.11 Suitability of roles within the IT department to online training

Fourteen roles within the IT department were identified and respondents were asked to indicate whether or not they thought that online training was suitable for each role. The fourteen roles, adapted from Demetri Orlando (2011), are:

- IT Director - budgeting, strategic planning, department management, purchasing, PR, etc.
- Project management
- Business and system analysis
- Team leadership and soft skills
- Network administrator - managing network services and servers
- Database administrator - managing databases, including backups and disaster recovery
- Software design and development, selection, testing, installing and support
- Webmaster - coordinating content, managing web software, server, graphics

- Telephone administrator - managing phone system, cell phones, billing
- Hardware/software installation and repairs - setup, imaging, upgrades, etc.
- Digital media management - editing, graphic design, communications
- Audio-visual support - setup and support AV events, recording, streaming etc.
- Help Desk - tracking and responding to incoming requests for help, support, problems
- Training - teaching users and staff how to use systems, equipment, and applications

Each of the roles identified require different skills and has a different level of authority within the organisation. In many IT companies, multiple roles are performed by the same person, so indicating that a role within an organisation is unsuitable for online training does not preclude an individual from online learning. Figures 4.20 to 4.33 depict the responses from the respondents for each role within the organisation.

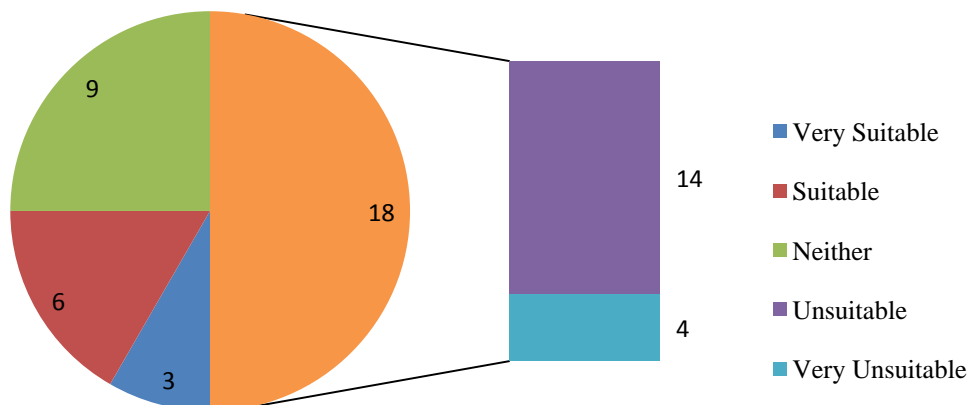


Figure 4.21: Suitability of online training for skills required by IT Director

The IT Director is a highly placed individual within an organisation and requires many different skills. Often this person requires more business-oriented skills instead of technical skills, although, in all likelihood, that person came from a technical background. The IT Director is generally an individual that requires a great deal of experience in a number of different disciplines and it is, therefore, unsurprising that half of the respondents (eighteen respondents) indicated that online training is not suitable for this individual. Only a quarter of the respondents indicated that online training is suitable or very suitable for the training of this role.

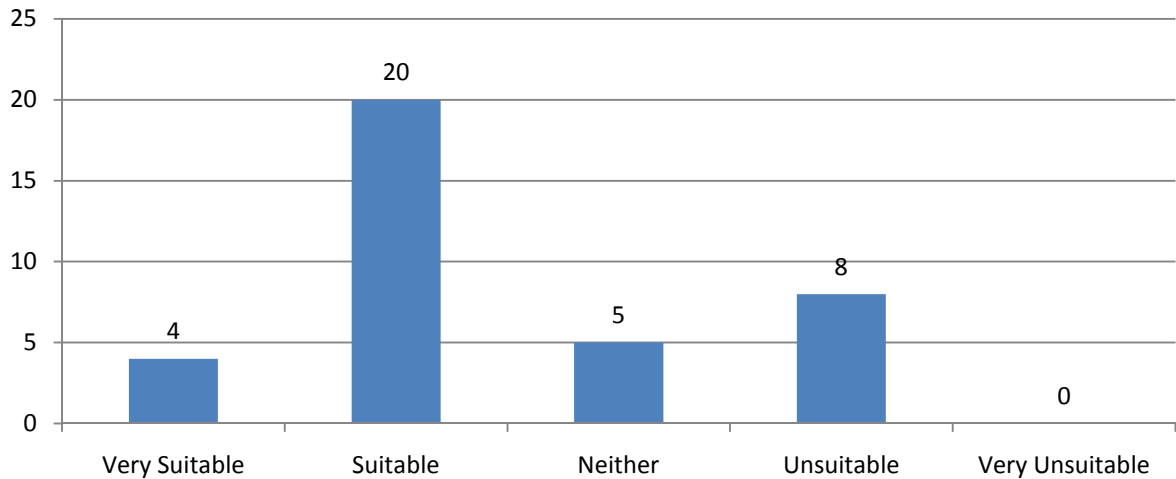


Figure 4.22: Suitability of online training for skills required by project managers

Project management is a discipline that is quite theoretical. Although there are some soft skills required in project management, the respondents indicated that project management skills are suitable to online training. Ten percent indicated that online training is very suitable, and an additional 54% indicated that online training is suitable for the skills required by a project manager.

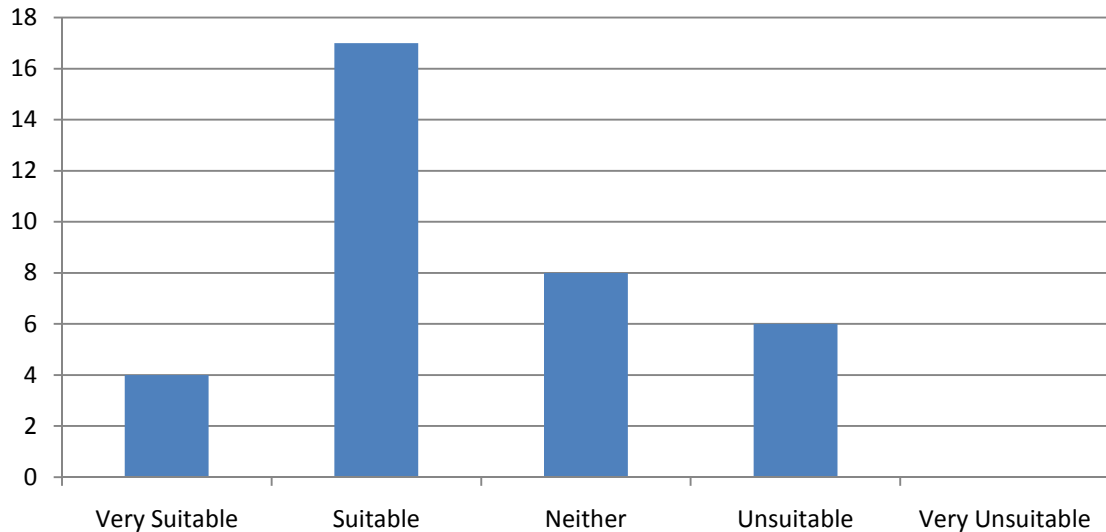


Figure 4.23: Suitability of online training for skills required by business / systems analysts

Similarly to project management skills, the skills required by an analyst are also theoretical. Therefore, the results of this question garnered similar results to that of the previous question.

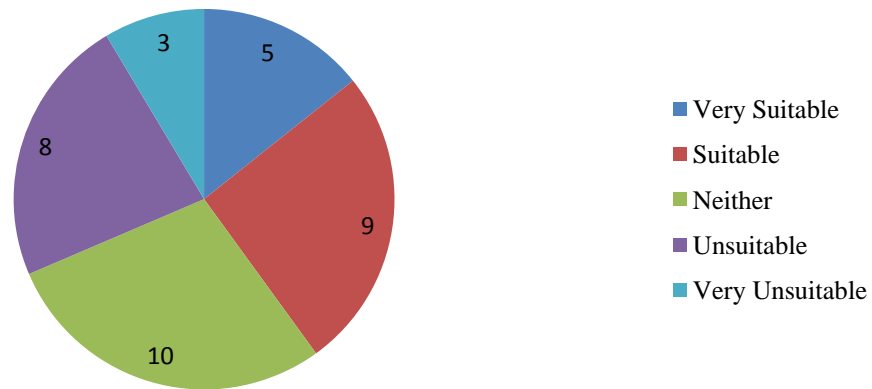


Figure 4.24: Suitability of online training for soft skills required by team leaders

Soft skills are a more difficult discipline to learn. It is, therefore, not surprising that fewer respondents indicated that online training would be suitable to this type of training. Despite this, 40% of the respondents indicated that they thought online training was either suitable or very suitable to develop the soft skills required by team leaders.

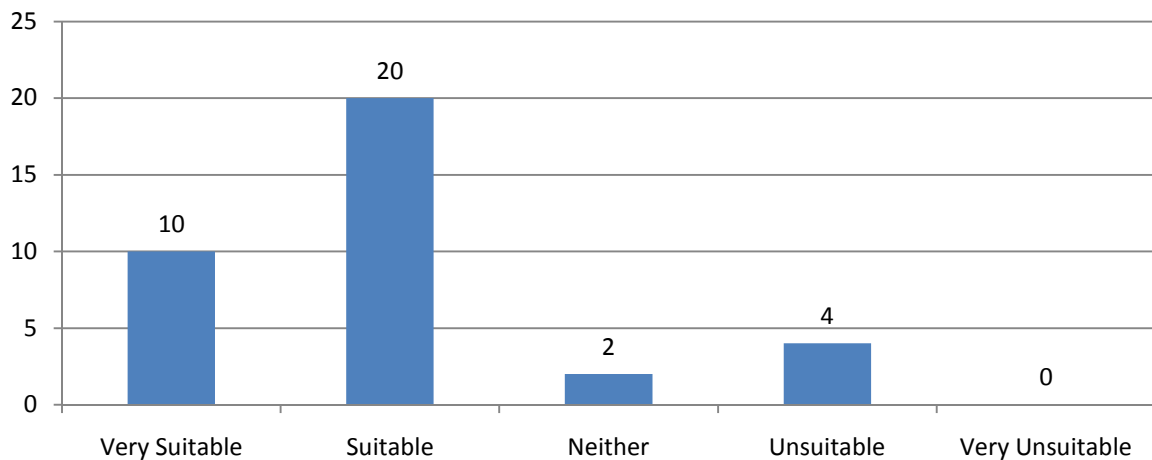


Figure 4.25: Suitability of online training for skills required by network administrators

Networking knowledge is very theoretical and the respondents were very strongly in favour of online training being suitable for training in these skills. More than four in every five of the respondents indicated that they thought that online training could develop the skills required by network administrators.

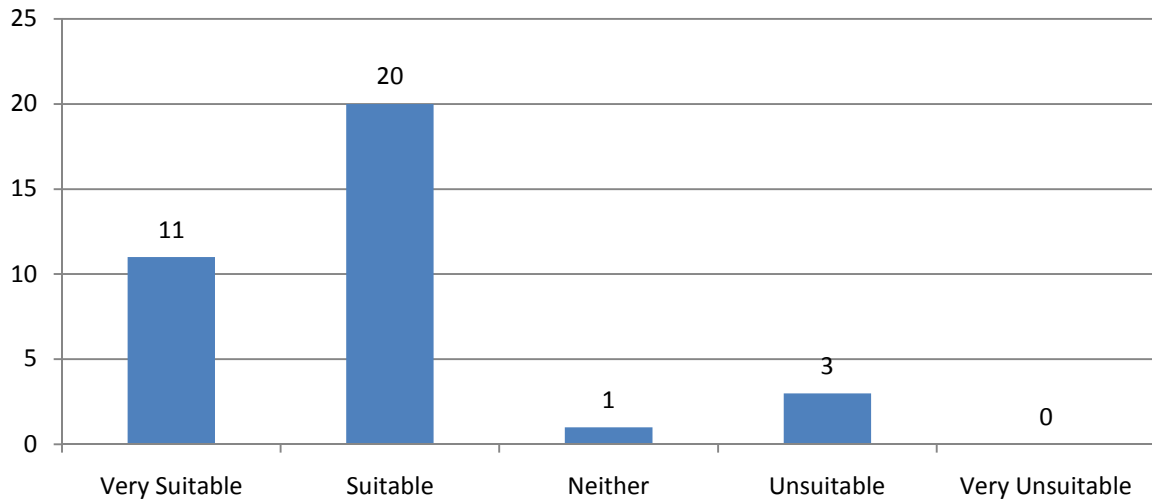


Figure 4.26: Suitability of online training for skills required by database administrators

Database administration skills are similar to networking skills in that they are very theory-based. As such, it is not surprising that the results attained from the respondents are very similar to those results gained in figure 4.24. In fact, the results are even more in favour of the suitability of online training to develop database administration skills, with almost 89% of respondents indicating that online training is suitable or very suitable.

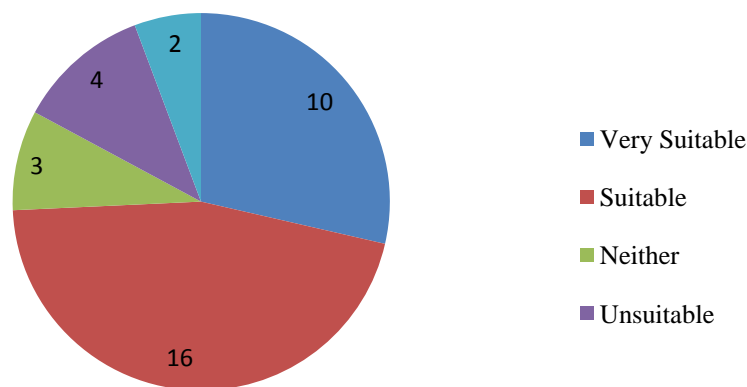


Figure 4.27: Suitability of online training for skills required by software designers and developers

Software design and development is a skill set that is predominantly theory-based and is, therefore, suitable for online training. This is corroborated by the respondents in that almost two-thirds indicated that these skills are either suitable or very suitable for online training. However, there are some soft skills required in this role. Skills such as logic, creativity and problem solving are often associated with this discipline. This could explain why 17% of the

respondents felt that online training is either unsuitable or very unsuitable for software designers and developers.

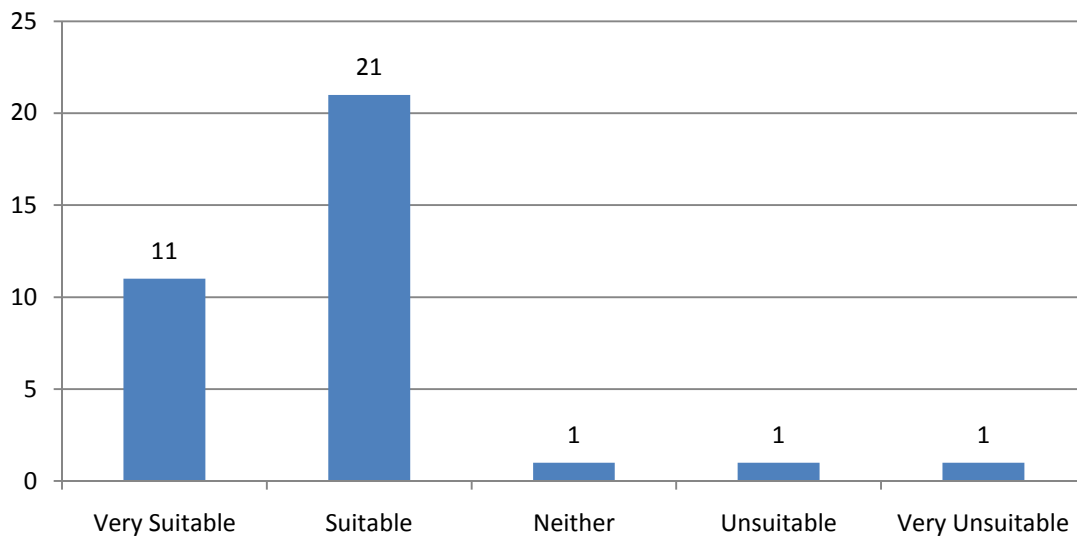


Figure 4.28: Suitability of online training for skills required by webmasters

Designing and maintaining websites is often very dependent on the tool that is used. All websites, regardless of the tool used to create them, are built using HTML (Hypertext Markup Language) code. All the tools and the foundation HTML code are very theoretical and, as such, are very suited to online learning. More than 90% of the respondents indicated that this was the case by answering that online training is either suitable or very suitable to develop the skills required by webmasters. A possible reason why there were some respondents that felt that it is unsuitable would be the creative and spatial skills required when developing websites.

Telephone administration is not a very common discipline in South Africa and is a task generally included in the tasks of the network or IT team. However, with the advent of VoIP (Voice over internet protocol), mobile and private branch exchange (PBX) technology these skills are starting to become more and more recognised. However, the fact that it is a discipline still on the rise could explain why a quarter of the respondents indicated that online training is neither suitable nor unsuitable for developing these skills. However, 70% of respondents indicated that it is either suitable or very suitable for the development of these skills.

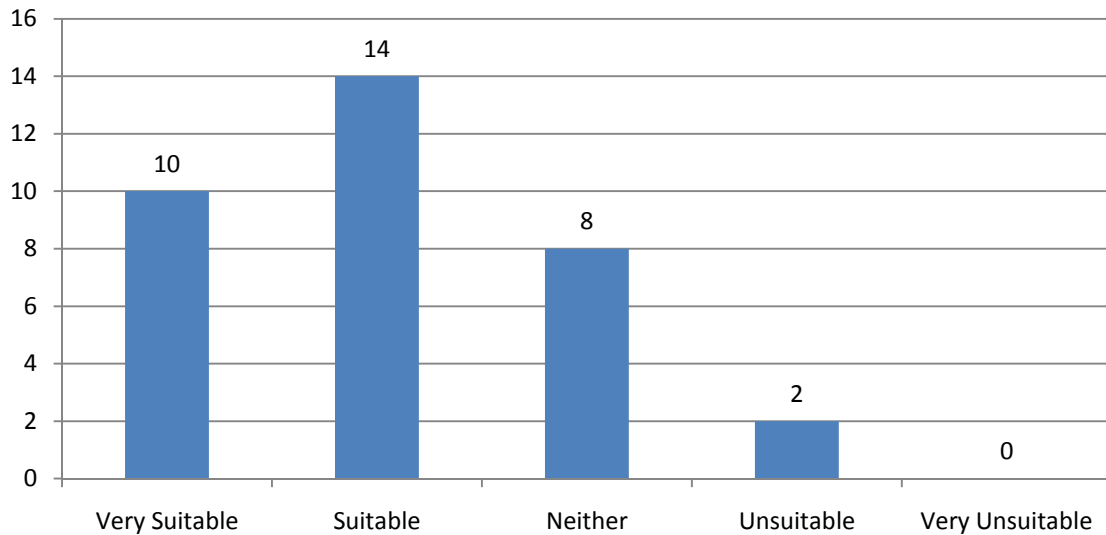


Figure 4.29: Suitability of online training for skills required by telephone administrators

Once again, a large number of respondents (69%) felt that the skills required by hardware and software installers are either suitable or very suitable to online training (Figure 4.30).

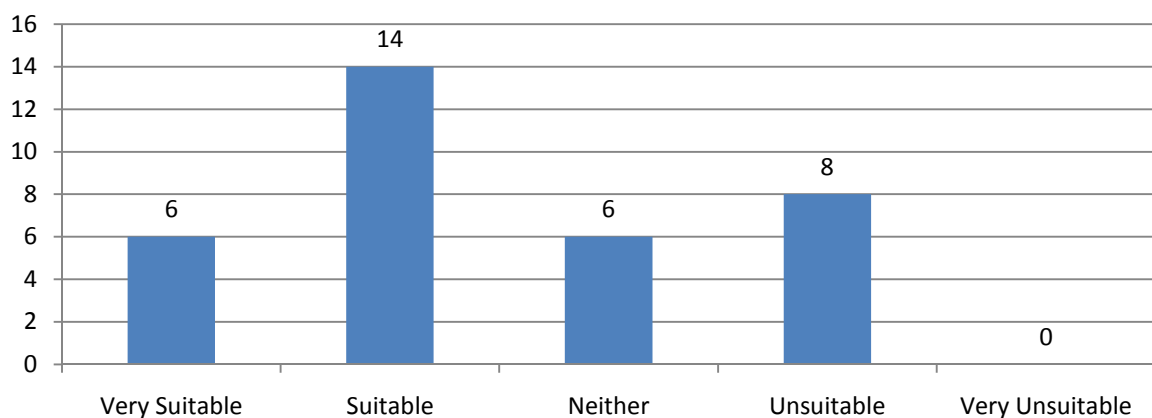


Figure 4.30: Suitability of online training for skills required by hardware / software installers

Digital media managers are those people who are responsible for maintaining the digital media of an organisation. Digital media can be defined as any information that is stored by the business and needs to be accessed regularly or hardly ever. This includes data archiving, backups, documents, videos, website collateral, client information and more. Digital media is another role in KwaZulu-Natal that is generally included in the responsibilities of a network administrator and is not considered a full-time job.

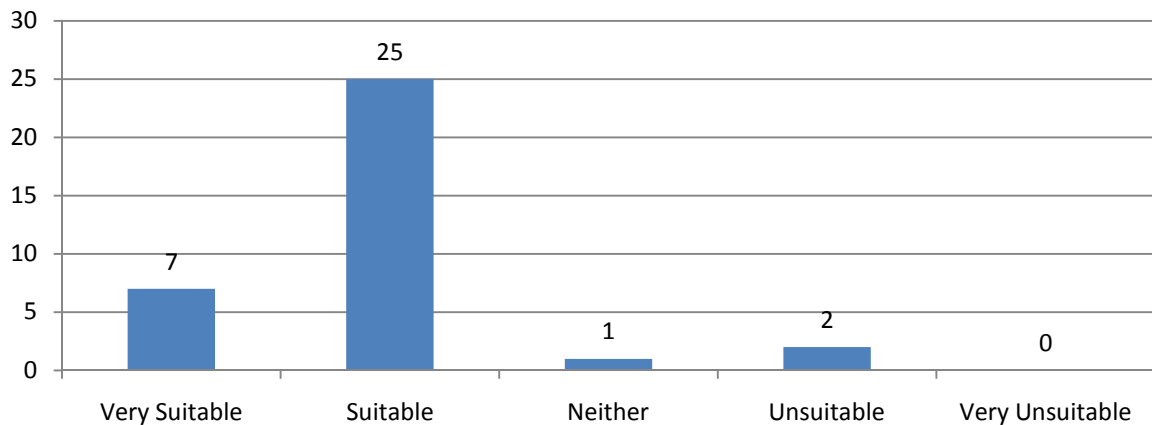


Figure 4.31: Suitability of online training for skills required by digital media managers

However, it is definitely a role that is suitable for online training and this is corroborated by the fact that more than 90% of respondents indicated that online training is either suitable or very suitable for acquiring the skills required for digital media management.

An audio-visual specialist is a person who is responsible for all matters related to sound, video, presentations, instructional classes, projections and so forth.

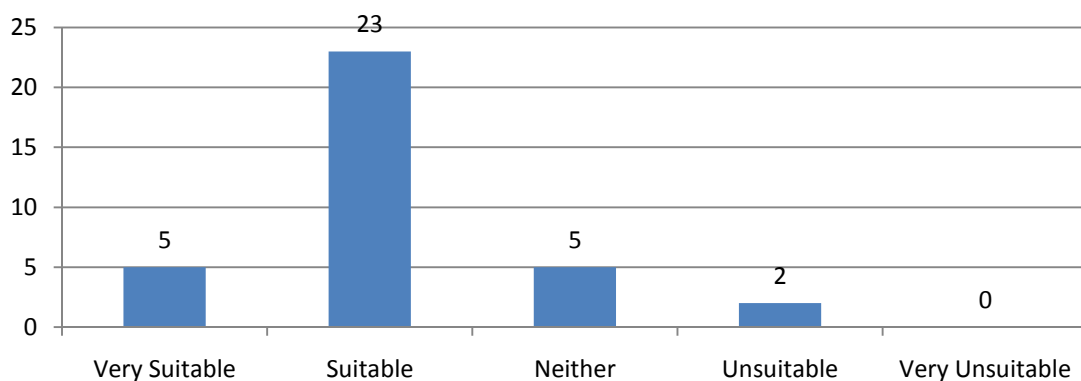


Figure 4.32: Suitability of online training for skills required by audio-visual specialists

The role of the audio visual specialist is generally included in the role of the network administrator or hardware specialist, but there are many businesses that require a full-time audio-visual specialist, such as businesses that do a lot of presentations or training. Eighty percent of the respondents indicated that the skills required for an audio-visual specialist are either suitable or very suitable to online training.

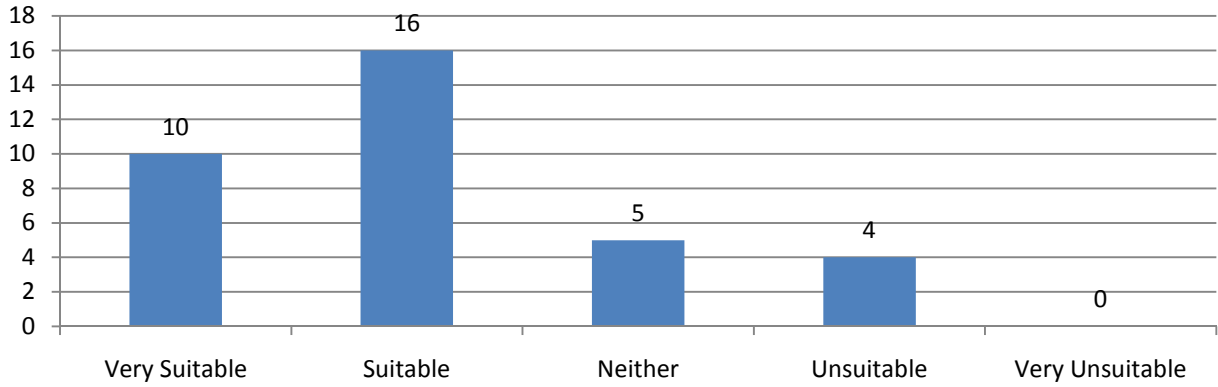


Figure 4.33: Suitability of online training for skills required by Help Desk

Help Desk skills include technical skills and some soft skills. Almost 75% of respondents felt that these skills could be gained from online training.

Like Help Desk skills, training skills include technical skills and some soft skills. Of course, the most important skill a trainer has is expert knowledge of the field that they are training people in. For this reason, almost 80% of respondents indicated that online training methods were either suitable or very suitable to develop the skills required by a trainer. It is very interesting to note that more than a third responded that it is, in fact, very suitable.

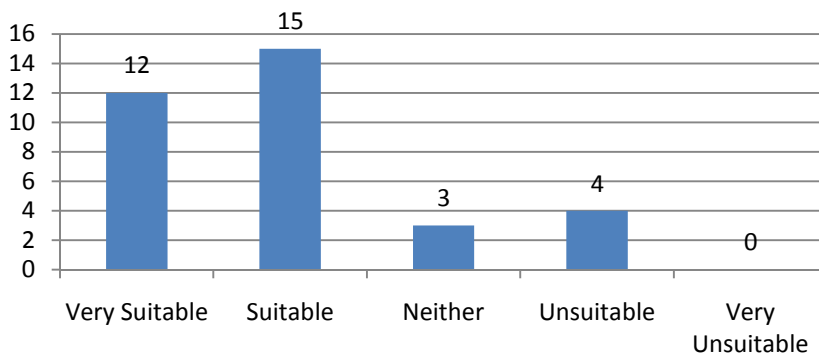


Figure 4.34: Suitability of online training for skills required by Trainers

Of the fourteen roles, all of them, except for the skills required by the IT director, are deemed to be suitable to online training methods. Therefore, it stands to reason that job role is not a consideration when deciding on whether or not to make use of online training.

4.12 The acceptance of online learning in organisations

A wide range of people from a wide range of business disciplines responded to this questionnaire. It is, therefore, interesting to understand if online learning has been considered previously within organisations. Additionally, if online learning has been considered, what were the reasons for either deciding to use online resources or not. Figure 4.34 represents the results of whether online training has been considered and then rejected within an organisation.

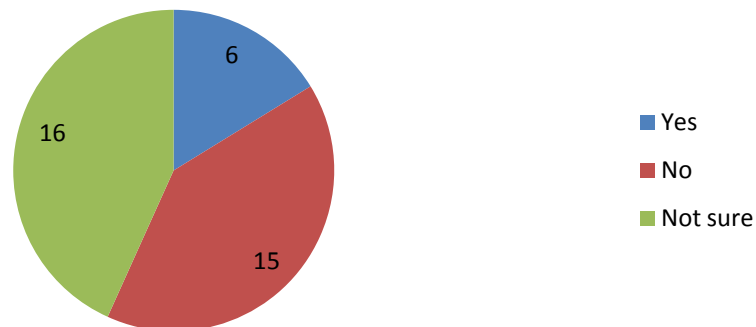


Figure 4.35: Has online learning ever been considered and then rejected?

The fact that 43% of respondents indicated that they were not sure whether online learning had been considered shows that online learning is still very much an unknown quantity. The fact that senior IT and human resource staff have not looked at online learning as a viable alternative to traditional means indicates that online learning methodologies are not taken seriously at all by a large proportion of businesses in KwaZulu-Natal. However, of the respondents that have considered this form of training, most have not rejected the resource. This would indicate that, once considered, online training resources are quite often accepted. Figures 4.35 and 4.36 present the reasons why online learning would either be rejected or accepted by business once it has been considered.

The most common reason for not accepting online training is the fact that formalised training forces the trainee to learn, whereas online training does not. This means that decision makers do not have the confidence that staff will be able to focus on their studies if it were left up to them. Taking the time out of the office and going to a traditional learning institution or course ensures that the trainee gets the most out of the exercise.

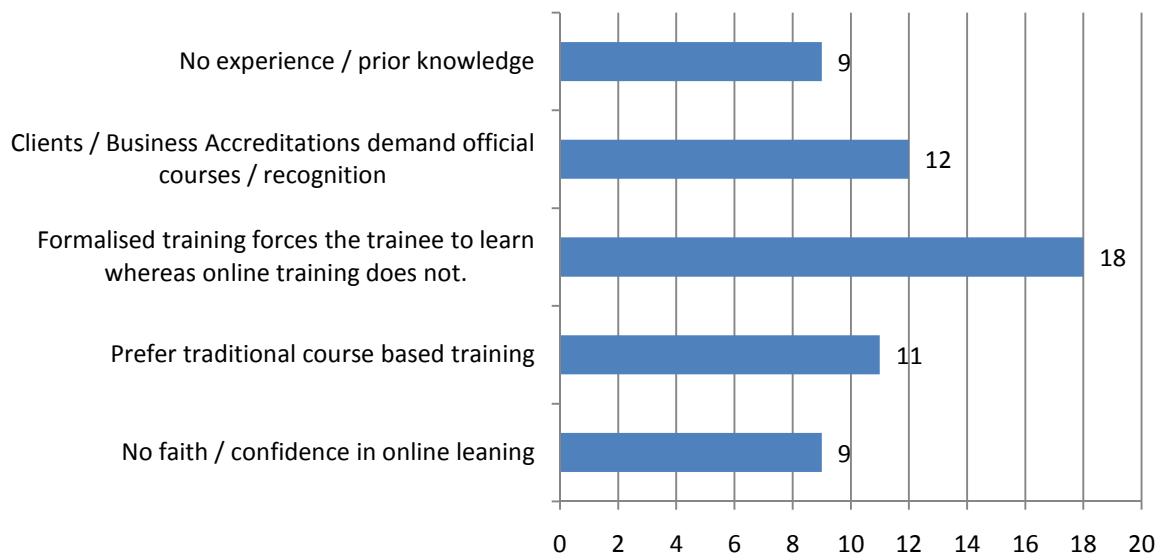


Figure 4.36: Possible reasons for rejecting online learning

The next most common reason is that the client or official business accreditations and partnerships require certifications that can only be achieved through traditional means. For example, there are companies that will only do business with companies that have a specific number of Six Sigma professionals, Oracle Certified Professionals and so forth.

The “no experience or prior knowledge” and “no faith or confidence in online learning” categories are interesting because they were both quite commonly indicated by the respondents as reasons for rejecting online learning. Once again, this suggests that online training and e-learning is still an unknown quantity in KwaZulu-Natal business.

The reasons for accepting online training were not unexpected, given the proposed benefits of online training. The retention of scarce resources is a very popular reason for accepting online training. Twenty three respondents indicated that they would accept online training if it were more cost-effective than traditional means and twenty indicated that they would accept it due to the fact that less time would be taken by the trainees. Another danger that decision makers in business would seek to guard against is any loss in productivity. This is corroborated by the fact that seventeen respondents indicated that they would accept online training so as to keep valuable individuals in the office should their skills be required.

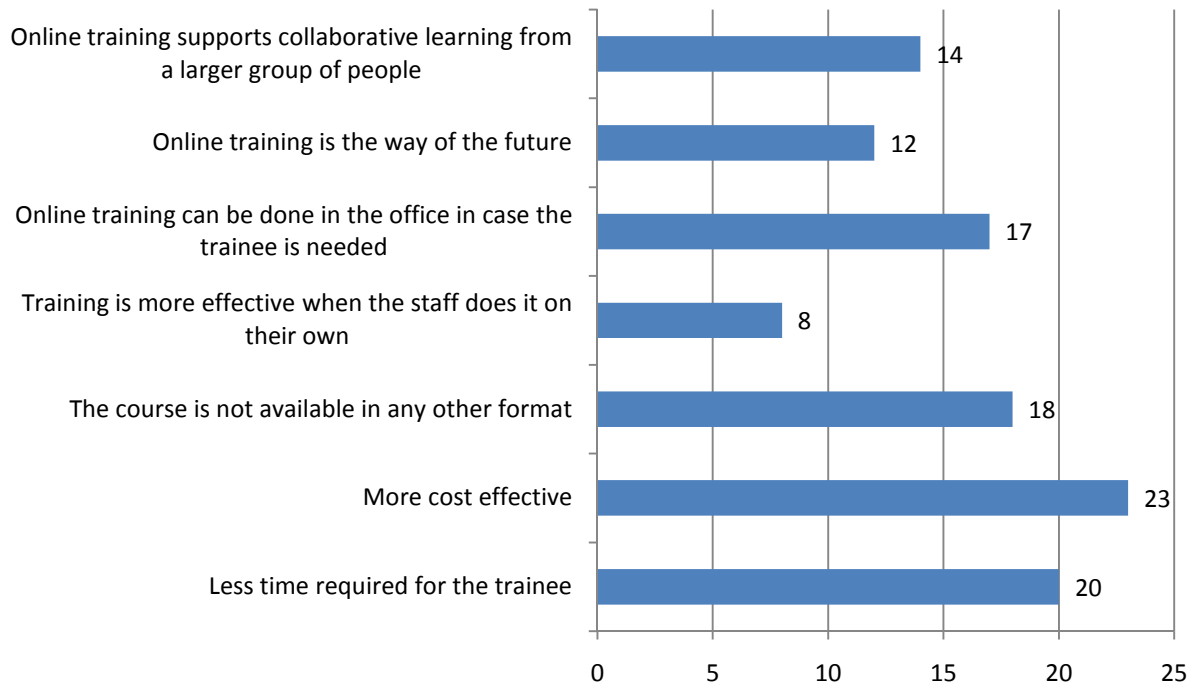


Figure 4.37: Possible reasons for accepting online learning

It has been suggested that online learning will become the third highest use of the internet after email and searching. Twelve of the respondents concur with this and indicated that they would accept online training because it is the way of the future.

Only eight respondents indicated that they would accept online training because individuals learn better on their own. This coincides with the main reason to reject online training – that formalised training forces the individual to learn. Online learning is not only new to business, but it is also new to staff, and there does not seem to be any research into understanding the success or failures of online training in those companies in KwaZulu-Natal that make use of these facilities.

4.13 Conclusion

Chapter 4 presented and analysed the data acquired from the questionnaire and allowed the researched much insight into online training within businesses. Chapter 5 presents a discussion of the results gathered and testing done on the data.

CHAPTER FIVE

Discussion

5.1 Introduction

In order to achieve the aim of the study, which was to determine those factors that affect the acceptance of online training in IT departments in KwaZulu-Natal, the following hypotheses were tested:

- Males are more likely to accept online training and qualifications than females.
- The age of the respondent affects their acceptance of online training and qualifications in as much as the older the respondent, the less likely they are to accept online training methods.
- The more IT proficient the company is (i.e. the business sector they work in), the more likely they are to accept online training and qualifications.
- One of the perceived key benefits of online training is that this method of training is quicker and more time-efficient than traditional training methods.
- The smaller the company or IT department, the more likely they are to make use of online training in the belief that online training is less expensive and less time consuming than traditional training method.
- The level of qualification has a bearing on the likelihood that the company will accept that this qualification be achieved online.

5.2 Application of the DeLone and McLean IS success model to the result set

Based on DeLone and McLean's IS success theory (Figure 3.1), online training methods should be evaluated in terms of information quality, system quality and service quality which, in turn, lead to intention to use and user satisfaction. In this study, individual online training platforms and methodologies were not explored; therefore, the dimensions are applied to the concept of online training in its entirety.

- Information quality – is the information available to the trainee of high enough quality to ensure ultimately positive nett benefits. There are six criteria of information that must be met before information can be considered quality information. These are:
 - Accuracy – the information being taught in online training must be correct and accurate for the intended use. Much of the information available on the

internet has not been peer tested and, therefore, business must be very careful to choose a reliable online training platform that ensures effective online learning.

- Validity – the information must be valid and consistent with similar information available in the area that is being learnt.
 - Reliability – the information must be reliable and business must be confident that what their staff is being trained in is, in fact, correct and up to industry standards.
 - Timeliness – information must be up to date. Although some concepts and techniques are valid over long periods, IT is very susceptible to change. The online training information must keep abreast with changes in the industry or run the risk of becoming obsolete and useless.
 - Relevance – the information available online must be relevant to the IT industry and meet the criteria of the business. Therefore it is imperative that business sets their goals for online training and make sure that the success in meeting these goals can be reliably measured.
 - Completeness – the information that the trainee is learning must be complete. It must cover all the required areas and disciplines that the business is trying to cover in terms of their training strategy. Once again, this emphasises the point that business must set measurable goals before embarking on an online training exercise.
- System quality – DeLone and McLean (2004) state that “usability, availability, reliability, adaptability, and response time (e.g., download time) are examples of qualities that are valued by users of an e-commerce system.” Similarly, these qualities can be applied to the qualities valued by the users of online training.
 - Service quality – Online training is available in many different forms. Online training can be as complete as an online learning management system or simply the answer to a question posted in a forum. Therefore, similar to the many different forms of online training, there are many different levels of service quality. Some sites will provide support in the form of forums, email support, online support in the form of one-on-one chat facilities, or even collaborative learning environments where trainees can

meet online and discuss what they are learning. Other sites provide no support at all. Once again it is important for the business to decide what they want to achieve from online learning before they embark upon the process. Service quality is a driver of both the intention to use the facility and the user satisfaction, so the business must ensure that reasonable and realistic goals are set before the process and choose an online training partner that can meet these goals.

The three dimensions above drive two qualities that determine the nett benefits of using online training. These are:

- Intention to use online training – whether or not the business intends using online training as a strategy within the business.
- User Satisfaction – how satisfied is the business with the result of using online training.

The nett benefits derived from online training must be measured against the goals that the business initially set before embarking on online training. Some of the benefits could be increased knowledge, motivation to study further, ensuring that the department remains competitive in the industry, and improving the systems for which the IT department is responsible.

5.2.1 Application of the model to the result set

In analysing the data obtained from the respondents, the following conclusions can be made in terms of the DeLone and McLean IS success model:

- In Figure 4.17 it can be seen that thirty four respondents indicated that they would accept online training if done by recognised learning institutions or by reputable software companies such as Microsoft and Oracle. This would indicate the information quality is very important to decision makers when deciding whether or not to implement online training.
- In Figure 4.19 the respondents were asked how satisfied they were with any previous online training that they or their staff had undertaken. Of the twenty four respondents that had experienced such training, nineteen indicated that they were very satisfied or somewhat satisfied with the results. This would indicate that online learning resources are beneficial to business and fulfil the intended goals of such training. Therefore, it can be concluded that user satisfaction is quite high and this will increase both the

intention to use online learning in the future and the nett benefits from using such resources.

- However, Figure 4.20 represents a somewhat negative aspect of online learning. Respondents were asked how confident they were in skills gained from online learning. Only seventeen of the twenty eight responded that they were somewhat confident or very confident in these skills. This would indicate that business may have some scepticism toward online learning. It can be assumed that these seventeen were the same seventeen that indicated that they were satisfied with previous training. Therefore, whilst the majority of users of online training are satisfied with the results, there are still many businesses that have no confidence in it.
- This is corroborated by the results displayed in Figure 4.36. When asked what possible reasons a person could have for rejecting online learning, nine indicated that they had no faith or confidence in online learning. This decreases the intention to use online learning.
- However, respondents were also asked what possible reasons they could have for accepting online learning. The following reasons were given:
 - Fourteen respondents indicated their acceptance due to online learning supporting collaborative learning.
 - Seventeen respondents indicated their acceptance due to online training being facilitated in the office.
 - Twenty three indicated their acceptance due to online training being considered more cost-effective.
 - Twenty indicated their acceptance due to online training being considered as less time consuming than traditional training methods.

5.2.2 *Conclusion*

The nett benefits of online learning are as a result of the intention to use the resources and the user satisfaction derived from using these resources. The most important thing to note is that online learning must only be entered into if the business has reasonable and well-researched objectives that can be reliably measured. If these objectives and goals are set correctly, the information, system and service quality of individual training providers can be assessed. Choosing the right provider to meet the objectives set is critical in increasing the intention to

use the training and the user satisfaction in using the training. This, in turn, will maximise the nett benefits that a business can derive from online training.

5.3 Application of the Fit-Viability Theory (FVT) to the result set

Based on Fit-Viability Theory (Figure 3.2), all five driving constructs proposed by this model are applicable to this study.

5.3.1 Fit

Both the task and the technology constructs are applicable to this study.

The task is quite simply the training of staff in applicable business knowledge to better increase their job performance and productivity. At this point, there is no mention of how the training is to be done. This is simply the task that is to be carried out, and this can be done in a number of different ways. However, in order to determine the fit, the question must be asked: Does the task of training fit within the confines of online training.

As has been shown in this chapter, the task of training does indeed fit within the confines of online training.

The technology construct comprises the physical tools, and the acceptance of these tools, that will be used to implement online training within an organisation. In terms of the fit, a number of questions must be asked:

1. Does the technology fit within the confines of online training?
2. Is there sufficient user knowledge to ensure proficiencies of users in this technology?
3. Are the staff members to be trained willing to accept online training as the training tool within the organisation?

In this study, members of the IT department were selected, so all three questions regarding the technology construct can be confirmed to be true.

Therefore, in considering the task and technology, it can be concluded that online learning is a good fit for IT departments in businesses in KwaZulu-Natal.

5.3.2 Viability

In order to ascertain the viability of online training within an organisation, economic factors, organisational factors and IT infrastructure factors need to be taken into account.

Economically speaking, it has been shown that many respondents believe that online training is more cost-effective than traditional means, and this will positively influence the decision to make use of online training. Therefore, it can be concluded that economically online learning is a viable concept in terms of FVT.

The components of the organisational construct are whether the members have the necessary skills and motivation to make use of online training. One of the disadvantages of online training is that it does not force the trainee to learn in the same way that traditional methods do. However, because of the need for continuing education within the IT department and the need to remain up-to-date with the rapidly changing environment, it can be concluded that the motivation will be present. This, along with the assumption that people within the IT department will have the necessary skills to navigate and benefit from online learning tools, suggests that, organisationally, online learning is a viable concept in terms of FVT.

The final construct when considering the viability of online learning is that of IT Infrastructure. It can be concluded that IT departments in KwaZulu-Natal have the required infrastructure available to effectively implement online learning within their IT departments. This is, of course at the discretion of the business, but online access, especially if cloud computing is considered, is cheap enough and available enough to facilitate online learning. Therefore, it can be concluded that, in terms of IT infrastructure, online learning is a viable concept in terms of FVT.

5.3.3 Conclusion

Both the Fit and Viability of online training has been proved and, therefore, in terms of the Fit-Viability Theory, online learning is a viable alternative to traditional means of training. Of the three possible outcomes of the application of this theory to online learning, as discussed in Chapter 3, business should choose to accept online training or bespoke available online learning solutions to their specific needs in their IT departments. Online learning should definitely not be rejected.

5.4 Summary

Online learning is becoming a popular tool in the education and training of staff. The fact that many businesses are already using online learning methodologies and that traditional providers of training resources are integrating online components into their services would indicate that the use and availability of online learning is increasing and business might be

forced to use online learning techniques in future in order to remain competitive and up-to-date with rapidly changing technology and processes.

Chapter 6 concludes this study and makes some recommendations for possible future study into the world of online learning.

CHAPTER SIX

Recommendations and Conclusions

6.1 Introduction

Online learning is still a relatively underutilised resource in KwaZulu-Natal. However, the reasons why this is so have been narrowed down. It has been concluded that gender and age do not have an impact on whether or not a business uses online training. However, IT departments of companies that are more involved in the IT industry are more inclined to accept online learning. One of the greatest motivations for using online learning is the saving of scarce resources. The potential saving of cost and time and the potential to minimise the loss of productivity, are some of the main reasons why IT departments choose to use online learning.

6.2 Implications of this research

One of the main implications of this study is the fact that it has shown that online training is still relatively unknown and underutilised in IT departments in KwaZulu-Natal. This study will hopefully serve to increase the awareness of online learning and presents answers to some of the questions that may arise when considering the use of online learning.

This study also serves as information for the sellers of online learning resources. It is clear that companies feel that time and money can be saved by using online training, but some are still unclear as to the best way to implement online learning strategies within their business. It appears that online training is often not even considered when the training needs of businesses are discussed.

6.3 Recommendations for future studies

The following recommendations are made for future studies into the area of online learning:

- Is the use of in-house aptitude tests when interviewing IT staff an indicator of lack of confidence in the credentials of the individual? What qualifications would invalidate the in-house test? Is it because the industry is changing so rapidly?
- How do individuals respond to online training? What are the thoughts of people that have learned or trained online? This study focuses on the decision makers, but how do

individual staff member feel about online training, and what factors increase or decrease the success of online learning for these individuals.

- What are the reasons behind that fact that most people are only somewhat satisfied with online training experiences and only a small amount are very satisfied.
- What can be done to increase the use of online training?

6.4 Recommendations for business

Whilst the advantages and disadvantages of online learning are great, it is evident that online learning is a much underutilised resource in South Africa. It is, therefore, recommended to businesses to act on the following:

- Online learning is growing at a prolific rate. This growth is increasing the value of the resource and decreasing the cost. Previous thoughts of online learning should be discarded and investigation into the resource should be a high priority for decision makers in the business.
- The savings on cost and time should allow for more training of staff to be implemented. This is, of course, beneficial to any business and, as such, should be considered whenever training is discussed.
- The need and benefits of continued adult education are beneficial to both staff and the business in general. Staff should, therefore, be empowered to take control of their own learning and be encouraged to take advantage of online learning opportunities.

6.5 Summary

It would appear that online training offers many benefits to business, but the use of online training companies in KwaZulu-Natal is not as widespread as it could be. Although other countries such as America and the United Kingdom are exponentially increasing their spend on online learning, the rate of growth in South Africa is much slower. The need for training and leaning is South Africa is abundantly clear, and online learning might provide the means through which some of the needs can be alleviated.

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APPENDICES

Appendix 1 Questionnaire

I, Russell D. Marston, an MBA student, at the Graduate School of Business, of the University of KwaZulu-Natal, invite you to participate in a research project entitled Factors influencing the acceptance of online training and qualifications in IT Departments in KwaZulu-Natal. The aim of this study is to identify the use, and factors influencing the use, of online training methods currently being employed in the IT industry in KwaZulu-Natal. Through your participation I hope to understand how IT companies and departments are using online technology to further the education of their staff. I would also seek to understand if any benefits have been experienced by those companies or departments that currently use online training. Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business, UKZN. Should you have any queries relating to this study or your participation therein you can contact either myself or my supervisor on the contact details below. Russell Marston on 084 879 0920, or rdmarston@gmail.com Professor Manoj Maharaj on 083 786 6034, or maharajms@ukzn.ac.za I thank you in advance for your support and participation in this study. By clicking on I Agree below it is understood that you agree to take this survey and consent to your answers being used as part of this study.

1. Gender

- Male
- Female

2. Age Group

- 20 – 29
- 30 – 39
- 40 – 49
- 50 – 59
- 60 or greater

3. Which option best describes the Industry Sector your company works in.

- Computer Services including Networking, Hardware and Software
- Electronics
- Fast Moving Consumer Goods (FMCG)
- Financial
- Hospitality
- Manufacturing

- Telecommunications
- Transport

4. How many people in your company or IT department are dedicated to actual IT services and support?

- 1 to 5 people
- 5 to 15 people
- 16 to 25 people
- 26 to 50 people
- 51 to 100 people
- More than 100 people

5. How important are relevant qualifications when assessing the abilities of possible candidates?

	Very Important	Important	Neither Important nor Unimportant	Unimportant	Very Unimportant
Degrees					
Diplomas					
Certificates					
Experience					
Course Accreditation					
Online Qualifications					
Aptitude Tests					

6. Select the option below that best reflects your agreement with the statement: I am more likely to seek out online means for training my staff rather than relying on traditional training methods?

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree
- Not sure / haven't really considered it

7. Is training of staff ever neglected, rejected or cancelled due to the time that the staff member has to spend out the office?

- All of the time
- Most of the time
- Some of the time
- Never

8. When considering training staff – how likely is the potential decreased cost of online training to influence your decision?

- Very likely
- Somewhat likely
- Neither likely nor unlikely
- Somewhat unlikely
- Very unlikely
- Not sure / haven't really considered it

9. Select the option below that best reflects your agreement with the statement: Online training is quicker than traditional training methods?

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

10. Select the option below that best reflects your agreement with the statement: Online training could be done more cost effectively than traditional training methods?

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

11. Which of the following online means of training would you consider using when training staff? (You may select more than one)

- Courses offered by recognised learning institutions
- Courses offered by companies such as Microsoft, Oracle, Novell etc.
- Online learning sites that offer completion certificates
- Online learning sites that do not offer completion certificates
- Informal learning through self-study including e-books and online videos from sources such as Youtube

12. If you know about different online training resources please select how you became aware of them. (You may select more than one)

- Approached by staff members who would like to participate in the online training.
- Consultation with educators.
- Personal research
- Personal Experience
- Required by Company
- Word of mouth / Advertising
- Not aware of online training resources

13. If you or one of your staff has undergone online training how satisfied are you with the outcome of that training?

- Very satisfied
- Somewhat satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Very dissatisfied
- No online training has been undertaken

14. How confident are you in a staff members abilities gained from online learning ?

- Very confident
- Somewhat confident
- Neither confident nor unconfident
- Not very confident
- Not at all confident
- No online training has been undertaken

15. Below are 14 roles and functions that can be found in an IT department. Please indicate how suitable you think online training is for the role.

	Very Suitable	Suitable	Neither Suitable nor Unsuitable	Unsuitable	Very Unsuitable
IT Director - budgeting, strategic planning, department management, purchasing, PR, etc.					
Project Management					
Business and System Analysis					
Team Leadership Soft Skills					
Network administrator - manage network services and servers					
Database administrator - manage databases including backups and disaster recovery					
Software design & development, selection, testing, installing and support					
Webmaster - coordinate content, manage web software, server, graphics					
Telephone administrator - manage phone system, cell phones, billing					
Hardware/software installation & repairs - setup, imaging, upgrades, etc					
Digital media management - editing, graphic design, communications					
Audio-visual support - setup & support AV events, recording, streaming etc					
Help Desk - track & respond to					

incoming requests for help, support, problems					
Training—teach users and staff how to use systems, equipment, and applications					

16. Has online learning ever been considered and then rejected in your company?

- Yes
- No
- Not sure

17. If you have or were to consider online training, what possible causes would you have for rejecting it (mark all applicable)

- No faith / confidence in online learning
- Prefer traditional course based training
- Formalised training forces the trainee to learn whereas online training does not.
- Clients / Business Accreditations demand official courses / recognition
- No experience / prior knowledge

18. If you have or were to consider online training, what possible causes would you have for accepting it (mark all applicable)

- Less time required for the trainee
- More cost effective
- The course is not available in any other format
- Training is more effective when the staff does it on their own
- Online training can be done in the office in case the trainee is needed
- Online training is the way of the future
- Online training supports collaborative learning from a larger group of people

Appendix 2 Ethical clearance



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28 June 2011

Mr RD Marston (931310663)
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Faculty of Management Studies
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Dear Mr Marston

PROTOCOL REFERENCE NUMBER: HSS/0397/011M
PROJECT TITLE: Factors influencing the acceptance of online training and qualifications in IT Departments in KwaZulu-Natal

In response to your application dated 23 June 2011, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Professor Steven Collings (Chair)
HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

cc. Supervisor: Prof MS Maharaj
cc. Mrs C Haddon