

UNIVERSITY OF KWAZULU-NATAL

Effect of E-Learning on employees at Vodacom

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Abstract

Human capital forms an integral part of any business and has led businesses to invest heavily in training and development programmes not only to maintain an up to date workforce but also to garner a competitive advantage. Following the explosion of technology, e-learning has come to the fore as one of the premiere training methods of the future. E-learning has a plethora of benefits which include providing training anytime and anywhere as well as being a cost-effective alternative to traditional learning. This has prompted many businesses to choose this method of training, none more so than South African mobile service provider, Vodacom. The effectiveness of e-learning in increasing productivity, motivation and skill at Vodacom was unclear and therefore prompted the question “how effective are e-learning programmes at Vodacom?”

The aim of this study was to determine how effective the e-learning programmes at Vodacom were. Furthermore, the study sought to establish if these programmes had increased productivity and motivation of the employees as well as avoiding the barriers that are common to e-learning. To be able to attain this holistic view of e-learning at Vodacom and to study its effects, it was deemed necessary to survey all employees of Vodacom. Due to the large number of employees, a quantitative study was conducted which provided the vehicle for which the objectives of the study could be achieved.

The data, once analysed, collectively led to the conclusion that the e-learning programmes at Vodacom were indeed effective; they avoided the barriers of e-learning like lack of manager support and employees’ attitude towards e-learning and they resulted in increased productivity and motivation of employees. However, the analysis highlighted areas in the e-learning programmes that needed improvement to provide further benefits. The findings resulted in the following recommendations: ensuring relevance of training to job; using gamification to enhance user engagement, etc. The recommendations also highlighted key areas, like extending the study to include contractors of Vodacom as well exploring the relationship between productivity and retention of training material, for future development of e-learning that will elevate the e-learning programmes at Vodacom to new heights.

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List of Acronyms and Abbreviations

SPSS	Statistical Package for the Social Sciences
IBM	International Business Machines
CEO	Chief Executive Officer
ASTD	American Society for Training and Development
OJT	On The Job
CBT	Computer Based Training
TBT	Technology Based Training
WBT	Web Based Training
JIT	Just In Time
CD-ROM	Compact Disc Read-Only Memory
ICT	Information And Communication Technology
SME	Small To Medium Enterprise
LMS	Learning Management System
SCM	Success Case Method
CIPP	Context Input Process Product
ROI	Return On Investment
KPI	Key Performance Indicator
Wiki	What I Know Is
IT	Information Technology

Chapter One

OVERVIEW OF THE STUDY

1.1 Introduction

In the current business environment companies are faced with many challenges, like increased competition through globalisation, rapidly depleting resources and technological advancements (like broadband internet and mobile devices). This has created a volatile and ever-changing business landscape. To ensure that they stay ahead of their competition, businesses are looking to intangible resources like their human capital to provide the much needed competitive advantage (Del Valle & Castillo, 2009). Thus, training and development has been pushed into the forefront with businesses increasing their spending on training programmes to ensure that their human capital is adequately equipped. To fulfil these training needs, business has turned to electronic learning or e-learning as the preferred training method.

E-learning, through the advent of technology like Web 2.0 and mobile devices, has been transformed into a popular choice for training individuals (Mohammadyari & Singh, 2015). It provides an alternative to traditional learning in terms of its flexibility with learning taking place whenever and wherever it is needed (Teo, 2011). Although an abundance of research exists on the topic of e-learning, there appears to be limited research in the South African context especially within the mobile cellular industry. The focus of this research study was on the effect of e-learning on employees, taken specifically from the viewpoint of its effect on motivational levels and productivity levels.

This chapter provides an overview of this study starting with the motivation for the study, the problem statement and the focus of the study. The aim and objectives are highlighted along with a brief breakdown of the research methodology used. The limitations of the study are highlighted. Thereafter a detailed outline of the study per chapter is presented.

1.2 Motivation for study

While e-learning has been well researched, it's resurgence as a research topic has gained new traction due to ongoing technological advancements. In light of these changes, new research has been performed; however, there still remains insufficient research into e-learning in the context of South Africa, more so within the mobile cellular provider

industry. Thus, from an academic viewpoint this research will contribute greatly to this area of study which has been overlooked and provide further coverage of this relevant subject within the confines of South Africa.

The research was performed at Vodacom which is South Africa's largest cellular mobile communications operator, further adding to the relevance of the study (Mzekandaba, 2014). This research can greatly benefit Vodacom in terms of the insight provided by their employees on the e-learning programmes that are conducted at Vodacom. The management at Vodacom can formulate a picture of how effective these programmes are and what, if any, changes need to be made. This research will benefit the employees as well seeing that the recommendations, from the analysis of the data, will help change e-learning at Vodacom by tailor-making the programmes to meet employees' needs.

The research can also help other cellular mobile operators as well as other companies that use e-learning, to help refine their e-learning programmes as well as providing insight into the effect of e-learning on employees. Companies that have not introduced e-learning may look to start e-learning programmes in order to gain the documented benefit that e-learning provides.

1.3 Problem statement

Vodacom, established in 1994, has grown to become South Africa's largest mobile service provider with approximately 60 million subscribers across Africa (Mzekandaba, 2014). Vodacom, as with all other technology companies, has also been overrun with emerging new innovations that threaten Vodacom's competitive advantage unless they stay abreast of these innovations. To do so requires constant updating of employee skills. Given such a need, Vodacom has placed enormous emphasis on training and development and has spent close to 77 million rand on training in 2014 (Vodacom, 2014b, p.45). This not only emphasises the value that Vodacom places on training but also how important it is for Vodacom to have a cost effective training programme.

The literature reviewed in Chapter Two puts forth many training methods with e-learning providing the most cost-effective and flexible option. Its wide range of benefits includes being able to learn when and where the employee would like to, as well as for how long. However, as found in the existing literature, e-learning programmes need to be effective in

teaching the required content to employees such that the employees and the company benefit from the improved levels of motivation and productivity that these new skills bring. There is insufficient research on the effectiveness of the e-learning programmes at Vodacom in achieving new levels of motivation and productivity. This raises the question: How effective are the e-learning programmes at Vodacom? This study is therefore focused on unravelling the effect that e-learning has on employees at Vodacom whether it is in the form of improved motivation or productivity.

1.4 Focus of the Study

Vodacom has its head offices based in Midrand, South Africa, but it has regional offices throughout South Africa, in the major city centres like Durban and Cape Town. The Vodacom staff complement includes technical individuals (engineers, software developers etc.), administrative individuals as well as individuals working in the finance spectrum, all of whom were the focus of the research study. Hence the study was aimed at all employees at Vodacom who have participated in any form of e-learning regardless of the department they work in. This was done to achieve a clear view and understanding of e-learning across the entire Vodacom employee base. The study did not include any executives or board members, nor any employees that were only employed after the 31 May 2015. The research topic was also aimed specifically at the motivational and productivity aspects of e-learning as well as the effectiveness of the e-learning programme at Vodacom.

1.5 Aim and objectives

The aim of this research was to study the effect of e-learning programmes at Vodacom by analysing their effect on the employees. For the study of e-learning the objectives were to consider the effectiveness of the e-learning programmes at Vodacom in line with Kirkpatrick's four level evaluation model, thus providing answers to the research question. The following were the objectives:

- To ascertain the degree of satisfaction that employees have with the e-learning programmes at Vodacom.
- To determine the level of retention of knowledge that employees have been able to achieve after e-learning programmes.
- To assess how effectively employees have applied in their current work environment that which they have learnt from e-learning programmes.

- To establish if e-learning has increased motivation at Vodacom.
- To determine if e-learning programmes have improved productivity at Vodacom.
- To identify barriers to e-learning at Vodacom.

1.6 Research Questions

This research has provided answers to the following research questions:

- What do employees feel about e-learning programmes at Vodacom?
- Are the employees able to retain their training knowledge after completing e-learning programmes?
- How effectively have the employees been able to apply their training from e-learning programmes?
- What is the impact of e-learning on employees in terms of productivity?
- What is the impact of e-learning on employees in terms of motivation?
- What are the potential problems with e-learning at Vodacom?

1.7 Methodology

A quantitative approach to data collection was employed for this study. This was done via a self-administered online survey using the QuestionPro electronic survey system. The numeric data was analysed and developed into statistical form. Permission allowing for the research to be conducted was obtained via Gatekeepers letter with the condition that the results of the survey be shared with certain Vodacom managing executives before the final research project is submitted. Each participant had to provide informed consent electronically via the survey on QuestionPro. An email to all the participants was sent via tools on QuestionPro with the email containing the hyperlink to the online survey. To facilitate a sufficient number of responses, follow up emails were sent and further to this, individual participants were contacted via the instant messaging tool, Microsoft Lync.

The sampling frame used, was the Vodacom Global Address book which maintains a list of all Vodacom employees. This is necessary as the sampling size is 357 participants. A non-probability sampling design was used with the convenience sampling method being employed to collect the data.

The questionnaire was created with 29 questions. However, it should be noted that there were logical checks for some of the questions so that decisions or options taken could skip over some questions. Each question in the questionnaire was linked to an objective and as such provided a measurement of the objective. A detailed breakdown of the questionnaire along with the rest of the research methodology that was implemented is discussed in Chapter Three. For the data analysis, the information from QuestionPro was then transferred to the Statistical Package for the Social Sciences (SPSS) on which the analysis was performed. The data was then summarised and displayed as graphs and tables and is presented in Chapter Four with each objective.

1.8 Limitations of the study

The study was performed across the entire Vodacom population, however, a specific e-learning programme was not targeted, and thus the limitation of the study is such that it cannot be used to identify specific e-learning programmes at Vodacom that may need to be reconsidered in the light of the research. Only the general approach of e-learning programmes at Vodacom can be rectified if necessary. Another limitation is the fact that non-probability convenience sampling was used due to the large number of participants and the need for data collection to be performed with participants that were available. The limitations of the study are further expanded on in Chapter five.

1.9 Outline of the study

The research process was carried out in a structured and systematic manner which ensured that a thorough understanding of the research topic could be achieved. The resultant study is documented in five chapters, as illustrated in Table 1.1

Table 1.1: Summary of all chapters of the study

Chapter	Content
Chapter One	This introductory chapter provides an overview of the study, by describing the motivation for the study, the problem statement and the aim and objectives. It also documents the research methodology used, along with any limitations of the study.
Chapter Two	A review of existing literature is presented in this chapter which forms the theoretical basis for the study. In Chapter Two the broad topic of

training and development is introduced along with the numerous types of training available and the evolution of training leading to the specific topic of e-learning. The various concepts of e-learning are described including the Kirkpatrick model that was used to evaluate the effectiveness of e-learning. Rounding up the chapter is a discussion on the effect e-learning has on employees.

Chapter Three Chapter Three describes the research methodology. The choice of study and the reasons for selecting a quantitative approach are explored. This is followed by a discussion on the sampling decisions that were made and various data collection aspects, including instruments used for data collection as well as the validity and reliability of the data. The chapter ends with a description of the analysis that was performed and any ethical considerations that were taken.

Chapter Four The presentation of the results of the data collection and analysis thereof forms the central theme of Chapter Four. First an analysis of the demographic profile of the participants of the study is performed. This is followed by analysis of each objective of the study from the standpoint of the data that was collected with the various findings being highlighted in relation to previous studies.

Chapter Five This is the concluding chapter of the study and summarises the study and its various findings, bringing to light the conclusions that may be drawn along with recommendations that can be made to the stakeholders. Recommendations for further studies are also highlighted in this chapter.

1.10 Summary

In the current turbulent business environment, businesses need their human capital to be developed to help maintain their competitive advantage; hence, training and development has come to play an important role in the business infrastructure with e-learning providing a new technologically enhanced learning tool. This research study focused on the effects of e-learning on employees of Vodacom and the implications for Vodacom's e-learning programmes. This chapter presented an overview of the study with the motivation for the study, a complete description of the problem statement, the focus of the study as well as

the aim and objectives of the study. The research methodology was briefly touched on along with the limitations of the study and finally the structure of the study (per chapter) was outlined. The following chapter reviews the available literature on the broad area of training and development leading to the narrower, more specialised area of e-learning with additional focus on the Kirkpatrick evaluation model, to gain a greater understanding of e-learning.

Chapter Two

Literature Review

2.1 Introduction

From the financial crisis of 2008 to increased competition brought on through globalisation, the business world has never faced such turmoil. To calm these storms businesses have looked to growing their human capital as a source of competitive advantage. IBM founder, Thomas Watson Sr (1935, as cited in IBM Corporation, 2011) illustrated the importance of employees (human capital) by the following quote “Everything that goes through the factory and out into the field to our customers is a result of the efforts of the people in the schoolhouse and the laboratory”. Training and development forms the basis through which a company can enhance its human capital and thereby gain valuable performance increases, with none more so than e-learning which represents a technologically boosted training methodology.

The literature review examines the concept of training and development, drawing attention to the importance of it, followed by the various training methods that are used. The impact of technology on training and development leads to the central topic of e-learning which has been scrutinised from the benefits that it provides to the evaluation models that are used to examine its effectiveness, followed by an examination of the barriers to this training method and lastly by an examination of the effect it has on employees.

2.2 Training and development

To ensure their continued survival in a global economy, many companies have turned to their workforce as source of differentiation to remain competitive (Aguinis & Kraiger, 2009) as well as gaining a performance advantage (IBM Corporation, 2014). This is evident from the view of chief executive officers (CEOs) with “people skills” ranking as the fourth highest concern in 2013, as is illustrated in Figure 2.1

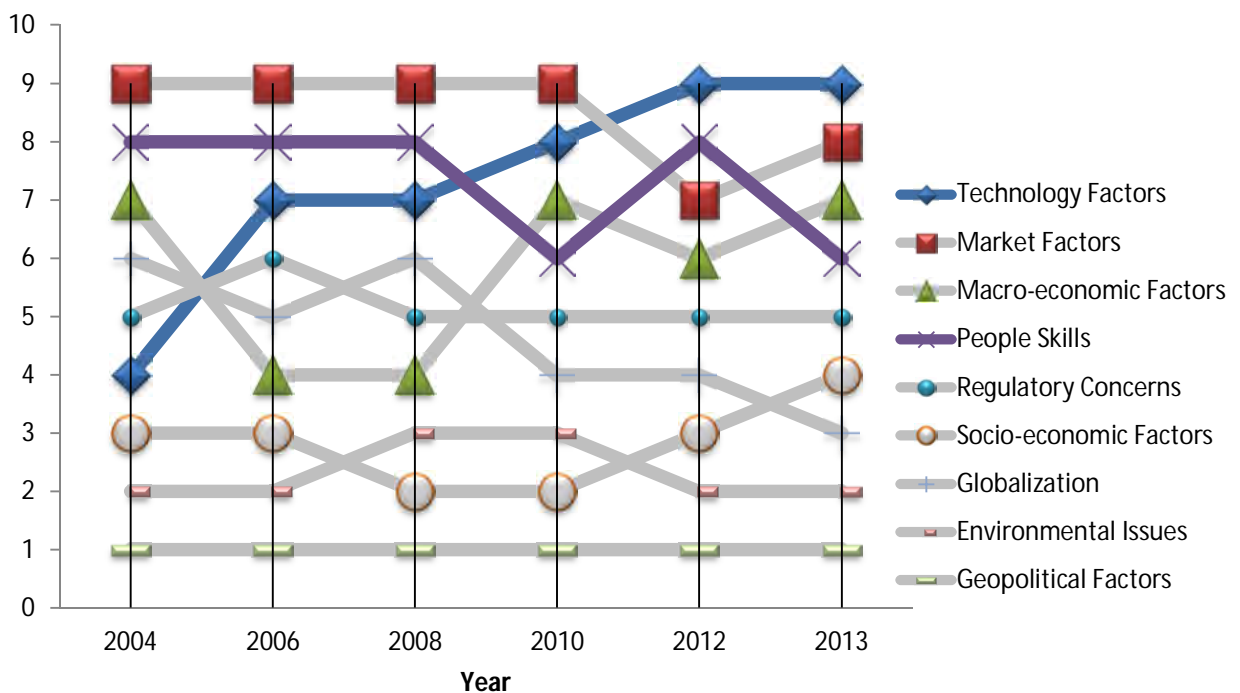


Figure 2.1: CEO concerns from 2004 to 2013

Source. Adapted from IBM Corporation White Paper 2014. The Value of Training. New York: IBM Corporation p4.

Taken from IBM Corporation (2014), people skills is a highly placed concern of CEOs in terms of external factors that were considered to have an impact on their companies’ performance. South African companies have realised the importance of training with companies spending 3.43% of their payroll on training, as found in the 2007 ASTD State of South African Training Industry report (Robbins, 2009, p.455). According to the 2013 American Society for Training and Development (ASTD) industry report on workplace

learning, an estimate of \$164.2 billion was spent on employee training, which highlights the growing emphasis that companies are placing on training and development (Miller, 2013). Training is a key element for upskilling employees and thereby ensuring that it impacts positively on performance of the companies.

2.2.1. Training

Training, as thought of in the corporate environment, is broadly defined as a process by which employees of an organisation can acquire the skills and capabilities to assist in reaching organisational goals. It encompasses areas such as employee education which represents basic skills training, along with specific training which is training that is required for an employee's particular work function (Grobler, 2011, p.340). Similarly, Milhem, Abushamsieh and Pérez (2014) defined training as a "planned" process used to modify skills and attitudes; through learning experiences and thus attaining performance needed for specific tasks, with the aim of satisfying the present and future requirements of an organisation. Kennedy, Chyung, Winiecki and Brinkerhoff (2014) further emphasised the alterations in behaviour brought on through these educational activities as part of a training programme. However, training cannot be viewed in isolation but must be seen in conjunction with development in order to provide a complete picture on employee enhancements.

2.2.2. Development

Development is defined as the activities that are aligned to the acquisition of new knowledge/skills for the purpose of self-growth of employees and thus enhancing their competences of their own occupation (Aguinis & Kraiger, 2009). Another view of development can be seen as a managerial function to amplify employee work proficiency by improving their knowledge and skills through development programmes (Grobler, 2011, p.340). Grobler (2011) further stated that training is concentrated in the short term whereas development considers the future. Ultimately, training and development is beneficial to both the employee, through the acquisition of new skills, as well the organisation through increased performance of their employees (Falola, Osibanjo & Ojo, 2014). The importance of training and development should be examined from multiple factors and not purely from the standpoint of increases in skills of human capital.

2.2.3. The importance of training and development

Apart from the general importance of updating of skills, training and development has a multitude of factors that promote the importance of it for a company. These include improving employee performance along with their innovative capabilities as well as the role of training and development in creating a competitive advantage. The importance of training and development can also be seen from government legislation. The last element is the impact on strategy that training facilitates. However, the first consideration of the importance of training will always be viewed from the impact training has on employee performance

2.2.3.1. Improving performance

There are numerous studies that support the view that there is a direct positive relationship between training and performance (Ji, Huang, Liu, Zhu & Cai, 2012; Truitt, 2011; Muhammad Ikhlas, 2012). However, Bae and Patterson (2013) found that training did not have a significant impact on the company's performance. Khattak, Rehman and Rehman (2014) contradicted this by claiming that the key objective of a training and development programme is to find improvement in employees' performance. Colombo and Stanca (2014) further substantiated the positive effect of training on performance, based on their finding that productivity was 10% higher for trained employees as opposed to untrained employees. Training also plays an important part in the general motivation of an employee and positively influences an employee's attitude as well as affording the employee the opportunity to understand the underlying business of their company (Liang, Kao, Tu, Chin & Chung, 2014). Therefore, it can be stated that training has a beneficial impact on an organisation's performance (Del Valle & Castillo, 2009). In these competitive times, being innovative is just as important as having improved performance, with training and development also playing an important role in this factor.

2.2.3.2. Innovation

Sarri, Bakouros and Petridou (2010) stated that there had been a shift from success factors like product efficiency and quality management in the 1960s to the 1990s, to creativity and innovation as new success factors for companies. Innovation has become an imperative for most companies as local and global competition makes sustaining significant growth virtually impossible (Hall, 2012). He further listed skills and capabilities as some of the key elements that were needed for innovation as well as highlighting the need for

companies to provide said skills through training. The study by Gallié and Legros (2012) of French manufacturing firms confirms that training leads to innovation. González, Miles-Touya, and Pazó (2012) found similar results connecting innovation to employee training, specifically in conjunction with research and development, with employee training reinforcing the effect that research and development has on innovating. Innovation leads to competitive advantage which is another factor that is influenced by training and development.

2.2.3.3. Competitive advantage

The competitive advantage for a company can come from its “tangible” resources like any natural resources the company may own as well as from “intangible” resources such as the self-made network created from its managers in various parts of the world (Bhaumik, Driffield & Zhou, 2015). Kamukama, Ahiauzu and Ntayi (2011) argued that since tangible resources have become easier to imitate, the true competitive advantage comes from those resources that are difficult to replicate such as those company specific intangible assets, namely a company’s human capital. Training plays a fundamental role in developing human capital and is therefore considered a key element by companies to attain a competitive advantage (Castellanos & Martín, 2011). Vidal-Salazar, Hurtado-Torres and Matías-Reche (2012) substantiated this by testing different hypotheses based on professional training and found training to have an impact on employees’ capabilities and thus supporting the company’s competitive advantage. Their findings also pointed to employees’ knowledge being improved by a greater number of training hours spent specifically on the same subject. However, to spend more hours on training means more investment in training.

To perpetuate a competitive advantage, companies must continue their investment in training and development programmes to ensure employees’ capabilities stay enhanced. An extreme view of this argument can be seen by some companies that follow an innovator’s strategy, who actually increase their investment in training and development during times of uncertainty and crisis. They do so with the view that such crisis provides an opportunity to capture market share and hence creating a sustained competitive advantage through the advancement of their human capital (Sheehan, 2014). Coff and Kryscynski (2011) claim that training itself can be used as a form of employee retention through its motivational attributes. However, a cautionary note needs to be heeded when

considering competitive advantage of a company in relation to the mobility of its employees (the ability of employees to leave the company once their training is complete). Restricting employees' mobility (through job design or compensation design) allows companies to retain their human capital based competitive advantage (Campbell, Coff & Kryscynski, 2012). For companies to gain or continue their competitive advantage, development of their human capital is essential, of which training and development provides a fundamental component (Mamaqi & Miguel, 2014). Maintaining a competitive advantage is important for a company, but for the South African government skills of the employees are just as important and hence the legislation around training and development.

2.2.3.4. Legislative requirements

The importance of training and development has even touched government circles where the South African government has considered skills development as an important component for growing the South African economy, based on the implications of skill improvement on performance and productivity (Grobler, 2011, p.376). They have introduced the Skills Development Levies Act 9 of 1999 as a means to ensure skills development in both public and private sectors through a levy/grant system where employers must pay a compulsory 1% levy to the South African government but have access to claim back funds as a grant through the accredited training of their employees (Paterson, Pillay, Reddy, Juan & Twalo, 2014). Robbins (2009) stated that companies in South Africa spend 3.4% of their payroll on training which is far greater than the 1% levy that is required by the government. However, Grobler (2011, p.376) argued that companies have criticised this levy, claiming that it negatively impacts on the company's profit. Although training and development may affect profit, it has been seen as a strategy to align the company to the legislative requirements of the South African government; hence it plays an important role in a company's overall strategies.

2.2.3.5. Impact on strategy

Training and development should not be seen in isolation with the only focus on skills and company performance improvements but as an essential part of the company's strategy and goals (Grobler, 2011, p.343). Alignment of training with company strategy allows employees insight in the direction of their company and enables them to contextualise their learning, along with the opportunity to use their newly acquired skills in their job (Lancaster & Di Milia, 2014). Companies that choose a low cost strategy will look to cost

saving as the ultimate goal and focus training efforts on short-term training programmes with the main area of training being in company procedures and policies or as curative activities to correct any shortages found in their employees' skills (Cheng-Hua, Shyh-Jer & Shih-Chien, 2009). According to Úbeda-García, Claver Cortés, Marco-Lajara and Zaragoza-Sáez (2014), companies that use a differentiation strategy will require employees to be creative as well as being able to adapt to turbulent changes in the market. As such, the training policy should be geared towards long-term development of employees and must be more proactive in nature to prepare employees for future changes. Lancaster and Di Milia (2014) found that employees have a preference for training programmes that are of relevance and of high quality. Dhar (2015), in support of this view, warned against the use of generic training programmes that are not relevant to the strategy of the company, as in doing so companies run the risk of losing employee commitment which may result in the employee performance not being aligned with the company's goals. Company strategy should form the backdrop and main impetus behind all employee training (Buller & McEvoy, 2012). The key to achieving positive results can be found in the selection of the most effective training methods.

2.3 Training methods

Part of any training and development programme are the mechanisms used to deliver the training, those being the various training methods (Grobler, 2011, p.352). Training methods can be formally defined as a logically, ordered set of activities or techniques that have been created specifically for the purpose of imparting particular knowledge, skills or abilities to the participants of the training programme so that these newly acquired skills can be used directly to improve or enhance the participants' job performance (Martin, Kolomitro & Lam, 2014). These methods can be categorised as formal training which is training that is structured and planned in advance, as well as informal training that is more unplanned and unstructured but can be easily adapted to specific situations and employees (Robbins, 2009, p.458). Within these two categories are "on the job" (OJT) training like job rotation, coaching and mentoring, as well as "away from the job training" like lecturing which is most commonly used in South Africa (Grobler, 2011, p.356).

2.3.1. Lecturing

Bevan, Kipka, Macgregor, and Semler (2012) described lecturing as passive (being the participants' role) and one-way in nature. Chaudhry (2014) defined lecturing as a teaching

methodology that can be dated as far back as the mid-19th century which makes use of a teacher dominant class with students playing only the passive role of listening to the lecture that the teacher is delivering. As old as it might seem, lecturing is still considered a popular method of training. This can be attributed to lecturing being able to cater for large audience groups as well as delivering uniform information as prescribed by the lecturer (Martin et al., 2014). Barkhuizen and Bennett (2014), through their research, found that lectures were rated as being the most effective training method. However, Martin et al. (2014) found lecturing to be detached from actual practice and as such leads to substandard learning. In agreement, Pandey and Sindhvani (2015) found that the drawback in lecturing is that it is seen as unidirectional with information flowing only from lecturer to the student. More importantly, lecturing as a component of away-from-job training takes an employee away from their current income-generating work.

2.3.2. Job rotation

Job rotation is a strategy used by management to transfer employees periodically between various jobs in the company (Katolnik & Hakenes, 2014). The purpose of job rotation is to allow employees to get a greater exposure to various job-related experiences within a company (Hodgson, Al Shehhi & Al-Marzouqi, 2014). Further, Zwane, Surujlal, and Dhurup (2014) defined job rotation as being applicable only to two employees from different work areas and who exchange jobs for a specified period of time. By its nature of exposing employees to different work areas, job rotation imbues employees with a greater interest in the company itself as well as creating a feeling of commitment to the company (Martin et al., 2014). Saravani and Abbasi (2013) confirmed that job rotation mediated through skill diversity increases employees' capabilities and results in the formation of multi-skilled employees, thus indirectly increasing productivity of the employees. In agreement, Suttapong, Srimai, and Pitchayadol (2014) considered job rotation as one of the best practices that the human resource department of a company can employ to make a contribution to the business strategy, as well as leading to higher levels of communication between employees across departments in the company. Although job rotation is beneficial to the entire company as knowledge is spread throughout the company when employees rotate between departments; it poses the risk of knowledge, held by the employee who is being moved, being undocumented and resulting in the newly transferred employee struggling to find the necessary information (Julia & Susanne, 2012). Lehmberg (2014)

argued further that job rotation can impede specialisation of an employee in a particular task.

2.3.3. Coaching

According to Emil Berg and Terje Karlsen (2012), coaching is defined as the process of encouraging and assisting individuals or teams to develop new methods to learn as well as new ways of thinking, thereby facilitating greater performance and leading to both organisational and personal goals. Kalkavan and Katrinli (2014), through their finding, support this definition that coaching is deemed to have a positive influence on an employee's performance of their duties at work. Coaching is split into the following two distinct styles:

- Team coaching revolves around coaching a team as a unit to achieve common goals through group collaboration and performance, not forgetting individual performance as well (Thornton, 2010).
- Peer coaching is a coaching technique where peers seek support from each other to solve daily problems as well incorporate new behaviour and knowledge (Emil Berg & Terje Karlsen, 2012).

The drawback of coaching as a training method stems from the requirement of the foundation of a healthy, respectful relationship between coach and trainee to facilitate learning (McComb, 2012). This can be seen especially in team coaching where the coach must understand team dynamics and psychology along with coaching basics (Clutterbuck, 2013). Coaching has gained popularity as a training method due to its effect on performance as seen in the case of the company EON (a power and gas providing company in the United Kingdom), with coaching resulting in increased productivity and boosting their customer service (Yates & Smith, 2015).

2.3.4. Mentoring

Poulsen (2013) defined mentoring from the view of a partnership between individuals of differing experience with the goal of achieving insight, new learning and growth. In agreement, Ramalho (2014) defined workplace mentoring as the relationship between more experienced employees (mentor) and relatively new and inexperienced employees (protégé), where the experienced employees guide, support and advise the newer employees. Grobler (2011, p.356) listed potential benefits of mentoring as being:

- career advancement of the protégé by nomination of the mentor

- mentor providing the protégé with visibility within the company
- greater job performance from the protégé attributed to the new skills acquired through the mentorship.

Although St-Jean and Audet (2012) claimed that not all mentoring relationships result in learning outcomes, they did state that mentoring allows for the transfer of knowledge which helps the protégé develop competences in these areas. Kochan (2013) warned against cultural differences within individuals (between mentor and protégé), as well as in the organisation that could lead to the failure of the mentoring programme. Mentoring, much like other forms of training, faces a transformation brought on through the introduction of technology that has pervaded all aspects of life. This results in the creation of electronic mentoring which bears the same definition as traditional mentoring with the exception of electronic communication as the primary communication method (Thompson, Jeffries & Topping, 2010).

2.4 Impact of technology on training

Technology has continuously grown in small increments; however, the past few years (from 2004 onwards) have seen this growth being incremented exponentially as a new digital age beckons mankind, with Web 2.0 at the forefront of this revolution (Llorens, 2011). According to Zhao and Kemp (2012) Web 2.0 is defined as the second generation of web technologies that is focused around users being able to connect with each other as well as allowing for new levels of interactions. Mamaqi (2015) concurred with this definition, emphasising collaboration and sharing that Web 2.0 facilitates between users. This collaborative effect can be seen with the change that Web 2.0 has brought to mentoring; through the use of social media sites like Facebook and Twitter, the protégé and mentor can communicate across vast distances and these websites offer areas where the protégé and mentor can share knowledge and work together (O'Brien & Hamburg, 2014). Facebook, Twitter and websites like blogs and wikis have had an impact on how information gets disseminated and shared in society, and as such lends valuable support to employee training as it creates more platforms for information and training to be shared (Toole, 2011).

Another technological advancement that has become ubiquitous in the workplace is the use of cloud computing which is defined as a set of computer resources and services that is available to a company as required through the internet (Ratten, 2012b). Similarly, Paul

and Lata Dangwal (2014) described cloud computing as a transportation mechanism for delivering information technology like computer power or applications to the end user. Ratten (2012a) considers one of the benefits of cloud-based learning to be the enabling of formal and informal learning that caters for learning across different individuals. The following are some uses of cloud-based learning:

- Cross collaboration with other companies when using cloud techniques to link between companies (Ratten, 2012a).
- Use of shared documents for training through cloud-based applications like GoogleDocs (Gradel & Edson, 2011).
- Providing an online writing environment to improve communication skills and develop individuals' thinking ability (Ratten, 2012a).

Along with cloud computing, Big Data stands out as a technological advancement that can play a role in training programmes, though this must be seen through the lens of learning analytics which is the process of analysing learners to gain insight into the learning process and thereby creating the optimal learning environment (Reyes, 2015).

Davenport (2014) defined Big Data as the collection of an enormous amount of data gathered from various sources along with the analysis of said data, which could only be reached because of advances in technology. Big Data can be used to segment different sections of job seekers and thereby allow the creation of customised job training for these segments (Manyika, Chui, Brown, Bughin, Dobbs, Roxburgh, Byers, & Institute, 2011). Through the learning analytics (defined above), big data can provide a view of the effectiveness of teaching and in doing so provide an accurate measurement of quality of learning (Reyes, 2015). As a tool for analysis, big data can help companies to track trainees' engagement with the content of the training programmes (Camilleri, De Freitas, Montebello & Mcdonagh-Smith, 2013). Sramek (2013) argued that although the theory points to positive uses of big data for training, corporate training sometimes occurs offline, using methods in line with on the job training, and hence big data cannot be used to effectively analyse the training programmes. He offered some encouragement by stating that as companies gather high precision data on the learning habits of their employees, they are able to improve the effectiveness of their e-learning programmes, using big data.

The implications of the rapid technological advancement in training is evident in the importance that companies have attached to this type of learning from the 2014 Impact Instruction Group report on learning trends, with Figure 2.2 depicting the most heavily invested technology based learning methods (ImpactInstructionGroup, 2014).

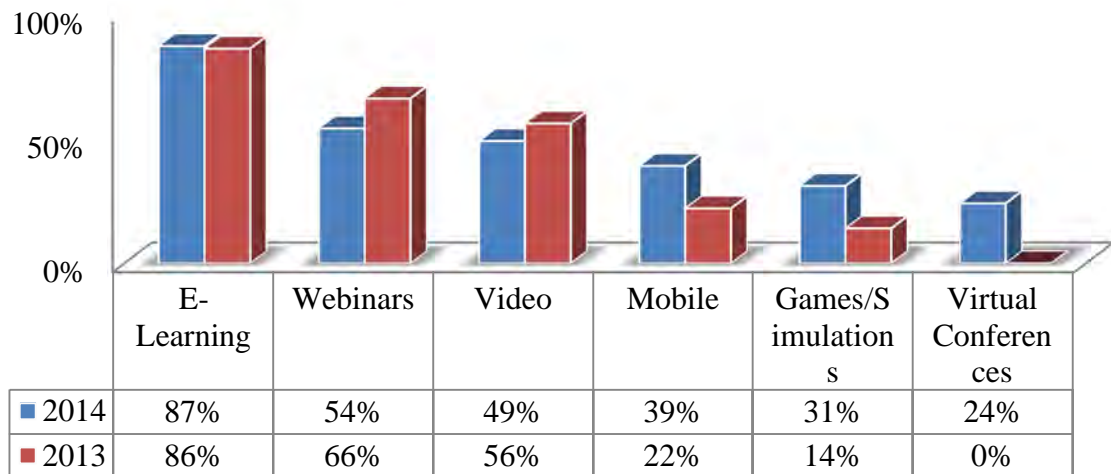


Figure 2.2: Technology-based learning in which companies invest in 2014

Source. Adapted from Impact Instruction Group 2014. 2014 Learning and Development Technology Report. Dublin: Impact Instruction Group p4.

According to ImpactInstructionGroup (2014), 87% of companies were planning to invest in e-learning as the technology-based learning method of choice in 2014, which was an increase of 1% from the 2013 figure. This stems from the technological developments described above which have heralded a new paradigm shift in training and development, being the era of e-learning which has been transformed to a more interactive learning experience (Wang, 2011).

2.5 E-learning

E-learning, much like society, is in a state of constant flux (Sangrà, Vlachopoulos & Cabrera, 2012). E-learning derived its name from the term electronic learning and incorporates all manner of learning, using technologies like computer systems and the internet (Patel & Bhadka, 2013). Thus, the discussion on the explosion of technology in the past few years bears exceptional relevance to the constant state of change as described by Sangrà et al. (2012). Figure 2.3 relates how e-learning has gained preference as a learning method, closing the gap with traditional learning (Miller, 2013)

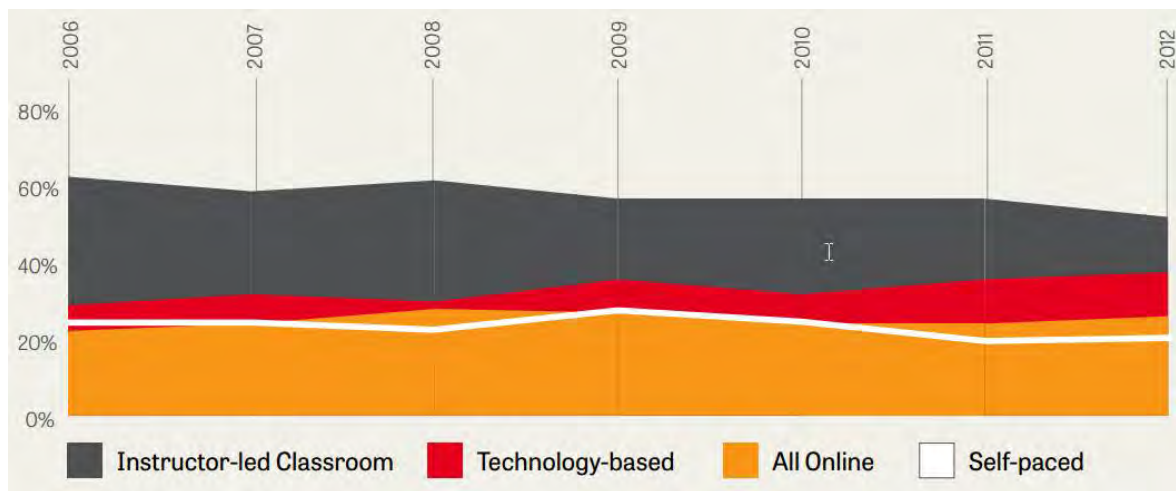


Figure 2.3: Primary delivery methods

Source. Adapted from Miller, L. 2013. s. ASTD's 2013 STATE OF THE INDUSTRY REPORT: workplace learning. ASTD.

According to Miller (2013) there has been a definite move away from traditional learning (decreased by 6% in 2012 as seen in Figure 2.3) to e-learning (e-learning increased by 10% in 2012 from 8% in 2010 as seen in Figure 2.3) which now creates the need for a proper definition of e-learning. Through this simplistic view of e-learning, a plethora of definitions have sprung, each resembling various characteristics of e-learning (Carter, Salyers, Myers, Hipfner, Hoffart, Maclean, White, Matus, Forssman & Barrett, 2014), for example e-learning is a delivery mechanism for learning and training using electronic means (Li, Lau & Dharmendran, 2009). Ellis, Ginns and Piggott (2009) defined e-learning within the context of communication and information technologies that students can use to improve their own learning. Wang, Vogel and Ran (2011) added to this definition by incorporating the business aspects and performance, stating that e-learning emphasises the

use of networks as well as computer technologies to create a learning environment rich in instruction and information resources leading ultimately to personal as well as organisational performance. Thus, Sangrà et al. (2012) through their research identified the following four components of e-learning that must be considered when defining e-learning:

- The rapidly changing nature of technology and its uses for learning
- E-learning contains aspects of collaboration in learning as well as autonomy
- E-learning facilitates both informal and formal learning objectives
- E-learning is a new model used for training and learning.

Using these components, they defined e-learning as being a methodology for teaching and learning that makes use of electronic media and devices as implements; used for improving access to communication and training as well as interaction, leading to the adoption of new methods of understanding and developing learning (Sangrà et al., 2012). Even with this comprehensive definition, e-learning still has multiple classifications, starting with its very first class being computer-based training (CBT) (Amirkhanpour, Ruediger Kaufmann & Garcia-Gallego, 2014)

CBT entails trainees using their computer hardware to execute specific training applications; web-based training (WBT) uses streaming media via the internet to train individuals by creating a vibrant learning setting and technology based training (TBT) which relies on learning to take place via electronic technology, like the internet, video conferencing, using applications like Skype, web casts etc. (Amirkhanpour et al., 2014). Muthuchamy and Thiyagu (2011) proposed two broad categories of e-learning, namely synchronous e-learning and asynchronous e-learning. Asynchronous learning takes place when a trainee is given the flexibility to learn online material at their own pace and the trainer may even not need to be online at the same time (Rao, 2011). Synchronous e-learning is defined as learning that takes place when trainer and trainee are online at the same time and both parties are not physically close to one another (Muthuchamy & Thiyagu, 2011). This usually takes the form of video conferencing, online lectures, and instant messages (Amirkanpour et al., 2014). Suci, Vulpe, Todoran and Militaru (2014) added another e-learning classification that is particularly relevant in the current mobile intensive society, namely mobile learning. Mobile platforms (include smartphones and tablets) have continuously grown more powerful and functional as the years have passed, such that there has been a massive surge in usage, thus creating a new outlet for learning as

individuals find it easier to connect to each other as well as to be able to access content continuously and seamlessly (Brantes Ferreira, Zanela Klein, Freitas & Schlemmer, 2013). As cited in Little (2012), Christophe Ferrandou, CEO of goFluent, is quoted as saying: “Mobile learning can offer great value to learners because it can connect employees to the knowledge they need, when and where they need it”. Garcia and Esteban (2011) described mobile learning as being the evolution of e-learning. Jacob and Issac (2014) further stated that mobile computing which is integrated with e-learning makes learning more accessible as well as more portable, thus further enhancing the benefits of e-learning.

2.6 Benefits of e-learning

E-learning poses many benefits that set it apart from other forms of learning, like the cost effectiveness of e-learning programmes, flexibility and adaptability for learners. It also introduces new concepts like just-in-time (JIT) learning but the technological advancement improvements can be seen in how e-learning connects trainers and trainees over great distances (David, Salleh & Iahad, 2012). E-learning is considered to be ubiquitous in nature lending itself to being beneficial for learning that is required for geographically dispersed populations by allowing for easier, efficient distribution of educational content (Salter, Karia, Sanfilippo & Clifford, 2014). Training in this form also has an added benefit of being able to be conducted “on-site” at the employers premises, or “off-site” at the employee’s home through the use of computer hardware like CD-ROM, and internet technologies like cloud computing or online training websites (Sisodia, 2011). Baylari and Montazer (2009) contended that e-learning allows people to continue training even at their homes as well as overcoming large distance separation between trainer and trainee. Similarly, Salter et al. (2014) stated that those who are learning through e-learning media have control over where the learning will take place as well as the time. It was found that individuals in e-learning programmes feel a sense of community regardless of the distance separation between the trainee and trainer, if there is video-based communication or if the trainer responds to any of the comments (Borup, West & Graham, 2012). A challenge currently faced in business with regards to training is the scheduling of training without it having a negative impact on the time of the employee. E-learning is well suited for this as it offers flexible access, allowing the employee/trainee to control not only the time when the training must occur but also for how long (David et al., 2012).

E-learning also offers employees a more flexible and adaptable learning process by allowing them to control the pace of the learning as well as providing updated content and thus keeping the learning valid and current to the work environment (Batalla-Busquets & Pacheco-Bernal, 2013). Granger and Levine (2010) were highly critical of this popular view on flexibility in e-learning and stated that learner control (the ability of the learner to control the pace, sequence, advice and content of the e-learning — necessary for the objective of flexibility) granted carelessly to trainees is not appropriate particularly when the complexity of the training is high and the cognitive ability of the learner is poor. They submitted to the fact that continuous technological advancement may lead to greater learner control of e-learning. Along with being a benefit, flexibility is also considered one of the critical success factors of an e-learning programme such that if the programme does not cater for flexibility in terms of time, place, learning style and space then there is a chance the training will not be successful (Ossiannilsson & Landgren, 2012). Ironically and somewhat prophetically to what Granger and Levine (2012) said, the introduction of Web 2.0 brought about by the rapid advancement of technology has led to more trainee/learner centred e-learning in which learners have more control of what to learn (Armatas, Spratt & Vincent, 2014).

Among the multitude of benefits e-learning provides, being able to supply training “just-in-time” remains one of the attractions of this form of training (Wang et al., 2011). Just-in-time (JIT) training/learning is based on the assumption that individuals lose the ability to retain useful information rapidly over time, but by presenting information “just-in-time” for an individual to use in their present activities provides the optimal preparation that they require (Shaffer & Zalewski, 2011). David et al. (2012) argued that JIT training is considered by employers as a value-added function of e-learning which allows them to fulfil their company’s needs and align with its strategy by providing their employees with the skills they need, at the time that it is needed. By providing training just when it is needed appears to be incompatible with the self-paced nature of e-learning; however, due to the interactivity that e-learning provides, employees can receive training anytime but can choose when to complete it as well as the option to recap information, thus providing employees access to revisit information if needed (Tiernan, 2014). The technological evolution known as Web 2.0 has heralded the arrival of easy to use software for creating e-learning content on the internet without much prior knowledge; this has resulted in a

reduction in cost of producing e-learning content (Anderson, Whitefield, Csete & Evans, 2013).

Sharma (2011) argued that the cost of commercial e-learning systems is astronomical but countered that companies can choose open source e-learning systems that are freely available as an alternate or make use of in-house software developers (if any) to produce an e-learning system. Reuse of existing information and communication technology (ICT) for e-learning can also be seen as a cost reduction methodology for those companies that possess ICT infrastructure with work and learning being performed on the same equipment (David et al., 2012). Cost effectiveness can be derived when companies are able to share training cost, however, it should be noted that cost sharing would be applicable to small to medium enterprises (SMEs) (Mellett and O'Brien, 2014). When accounting for cost over a long term, e-learning costs, primarily comprising hardware, software and maintenance, are considerably lower than those of a traditional learning course which can include costs like travel, tuition, course material, accommodation and meals (Charrondiere, Rittenschober, Nowak, Nicodemi, Bruggeling & Petracchi, 2014).

E-learning systems allow employers to monitor the learning process as well as the progress of the employees in the training (David et al., 2012). This monitoring function is part of the Learning Management System (LMS) which is a component of an e-learning solution, the others being the content and the communication tools (Bri, Garcia, Coll & Lloret, 2009). Chen (2015) found that learners who are not competent at monitoring their learning process have their attention easily shifted to other things, as well as having a fear of a negative evaluation, which suggests that learning is not being achieved. By introducing e-learning which has its own monitoring, employees can monitor their own progress in terms of percentage completion of a course and employers can monitor the learning process to ensure key legal areas like induction training and health and safety training are being completed by their employees (David et al., 2012). Although e-learning has many benefits, its comparison with traditional learning methods like job rotation is necessary to uncover its effectiveness as a training method.

2.7 Evolution of training

In line with technology changes, business has looked to replace or enhance its traditional training methods with e-learning as a means to better manage their workforce (Lim, Lee &

Nam, 2007). This evolution in training is demonstrated by comparing e-learning to traditional learning as well as to traditional training methods like job rotation, coaching and mentorship. Although e-learning has made massive strides as a training tool, traditional forms of learning, like lecturing, still account for most of the training done by corporations (Grobler, 2011, p.357).

2.7.1. Traditional learning versus e-learning

Traditional learning can be defined as an educational programme that is conveyed through face to face lectures, verbal interactions as well as through textbooks (Feng, Chang, Chang, Erdley , Lin & Chang, 2013). Traditional learning can be held in a classroom or in the corporate arena through workshops as well as away from job lectures. Unlike traditional learning, e-learning is not constrained to factors like time, space or even location (Teo, 2011). By exploring three aspects of learning, namely collaboration, self-regulated learning and information seeking, trainees/learners have found only a slight difference between traditional learning and e-learning for collaboration but there was significantly higher interest in e-learning for self-regulated learning as well as information seeking (Lee & Tsai, 2011). Zhang, Zhao, Zhou and Nunamaker (2004) provided a head-to-head comparison of traditional learning and e-learning, highlighting benefits and drawbacks of both methods, as illustrated in Table 2.1.

Table 2.1: Traditional learning versus e-learning

	Traditional classroom learning	E-learning
Benefits	Immediate feedback	Learner-centred and self-paced
	Being familiar to both instructors and students	Time and location flexibility
	Motivating students	Cost-effective for learners
	Cultivation of a social community	Potentially available to global audience
		Unlimited access to knowledge
		Archival capability for knowledge reuse and sharing

Drawbacks	Instructor-centred	Lack of immediate feedback in asynchronous e-learning
	Time and location constraints	Increased preparation time for the instructor
	More expensive to deliver	Not comfortable for some people
		Potentially more frustration, anxiety, and confusion

Source. Adapted from Zhang, D., Zhao, J. L., Zhou, L. & Nunamaker JR, J. F. 2004. Can e-learning replace classroom learning? *Communication of the ACM*, 47, 5, p76

Zhang et al. (2004) highlighted many advantages of both traditional learning and e-learning but e-learning offers fewer restrictions in terms of time and place. E-learning has the added advantage of being able to cater for multiple learning styles by offering a variety of learning paths (Mohammadyari & Singh, 2015).

2.7.2. Job rotation enhancements

Karadimas and Papastamatiou (2007) used a job rotation model that was integrated with an e-learning system, to provide unemployed individuals with the necessary knowledge to fill the role of an employee that was going to be rotated out, to go for further studies. Luor, Hu and Lu (2009) found that e-learning can also aid job rotation by shortening the socialisation process and improving problem solving. This is done by allowing the “novice” who is being rotated to that position, to gain knowledge on a company’s processes without having to continuously engage with the “expert” who is currently working in a position, over what may be deemed as “trivial” questions. Job rotation at its core represents knowledge transfer from “experts” to the “novice”; this provides an avenue for e-learning to play a part as it can be used to sensitise experts and novices about how to successfully complete knowledge transfer using online checklists to indicate if all the knowledge transfer steps have occurred (Wilkesmann & Wilkesmann, 2011).

2.7.3. e-Mentoring

Mentoring with its multitude of benefits for the protégé, the mentor and the company through improved performance, has been given a digital facelift through the advent of e-mentoring (Wilbanks, 2014). Thompson et al. (2010) defined e-mentoring as the relationship that is created between a more experienced individual (mentor) and a relatively less experienced individual (protégé) using an electronic means of communication. This allows for more frequent dialogue since both mentor and protégé do not have to travel to communicate. Rowland (2012) indicates that e-mentoring removes any gender, partiality and ethnicity problems that may be present in traditional mentoring. According to Ensher (2013) e-mentoring makes up an important form of e-learning. A benefit of e-mentoring is the ability to access a host of mentors with the removal of the geographic barriers that electronic advancements have brought (Wilbanks, 2014). E-mentoring suffers from the same problem that e-learning encounters and that is the impersonal feel of engagement online (Rowland, 2012). Further challenges can be found in the technological competence of the mentors which may lead to miscommunication (Williams, Sunderman & Kim, 2012). E-mentoring along with improvements in job rotation and the benefits over traditional teaching describe some of the impacts e-learning has had on training in general, but the effectiveness of e-learning still needs to be delved into. To evaluate the effectiveness of e-learning training programmes, Donald Kirkpatrick's 1959 four level training evaluation model is most commonly used (Griffin, 2011). The effectiveness of e-learning programmes is measured by the program's ability to correctly train the employees.

2.8 Effectiveness of e-learning programmes

Companies have continuously invested in learning programmes for their employees in an attempt to enhance the performance of their employees, and as such companies need to evaluate the effectiveness of these programmes (Griffin, 2011). The importance of evaluation is to highlight the achievement of training objectives (improvement in skills, motivation etc.) and thus validating the training (Chien, 2012). There are many evaluation models, like Success Case Method (SCM) which identifies success and then collects data that has contributed to the success which thereby enables assessment of the effect of training programmes; Stufflebeam's Context Input Process Product model (CIPP) which uses existing data from the four categories in the name to evaluate and make decisions on projects (Olson, Shershneva & Brownstein, 2011; Boonchutima & Pinyopornpanich,

2013). However, Kirkpatrick's four levels evaluation model retains supremacy over most of the other models and theories (Griffin, 2011). This model is made up of four levels (starting from Level 1 which is reaction, Level 2 being learning, followed by Level 3 which is behaviour, and lastly Level 4 the result), which enable evaluation of training programmes Kirkpatrick (1998 as cited in Lahti, Hätönen & Välimäki, 2014). Kirkpatrick (2009) countered criticism laid against this model by stating that it would not be possible to create significant training value by applying the four levels after the training programme has been designed and delivered; it is the misinterpretation of the model by the learning practitioners that has led to criticism.

The criticism levelled against Kirkpatrick's model came from the importance that was placed on the different levels and its hierarchical nature, since companies may not want to evaluate the training programme at all levels. For example, a company might train employees to use a new machine to complete more tests, hence they only want to evaluate if more tests were completed which is the end result at level 4 (Giangreco, Carugati & Sebastiano, 2010). However, Salas, Tannenbaum, Kraiger and Smith-Jentsch (2012) argued that the model allows companies to compare their training effort to companies in the same industry. According to Buganza, Kalchschmidt, Bartezzaghi and Amabile (2013), the model also considers only a small set of variables with factors like the environment being ignored, and the financial implications of training not being taken into consideration. The model has also been criticised for focusing heavily on the end result, evaluating the training after it has concluded (Aluko & Shonubi, 2014). The advantage of using this model is the focus it places on behavioural change outcomes of the individual being trained (Agarwal, Pande & Ahuja, 2014).

Although Kirkpatrick's model which first appeared in 1959 seems outdated and containing flaws, it has been the de facto standard used by companies to evaluate their training programmes (Salas et al., 2012). Even the critics of this model herald it as being universal through its global use (Giangreco et al., 2010). Even though King and Nesbit (2015) were critical of the Kirkpatrick Evaluation Model, claiming it to be too simplistic to evaluate leadership programmes, they were able to still use Level 2(Learning) to quantitatively evaluate the transfer of training in the leadership programme, along with Level 1(Reaction) to evaluate participants' satisfaction level.

Kirkpatrick's evaluation model as described earlier is built on four levels as depicted in Figure 2.4.

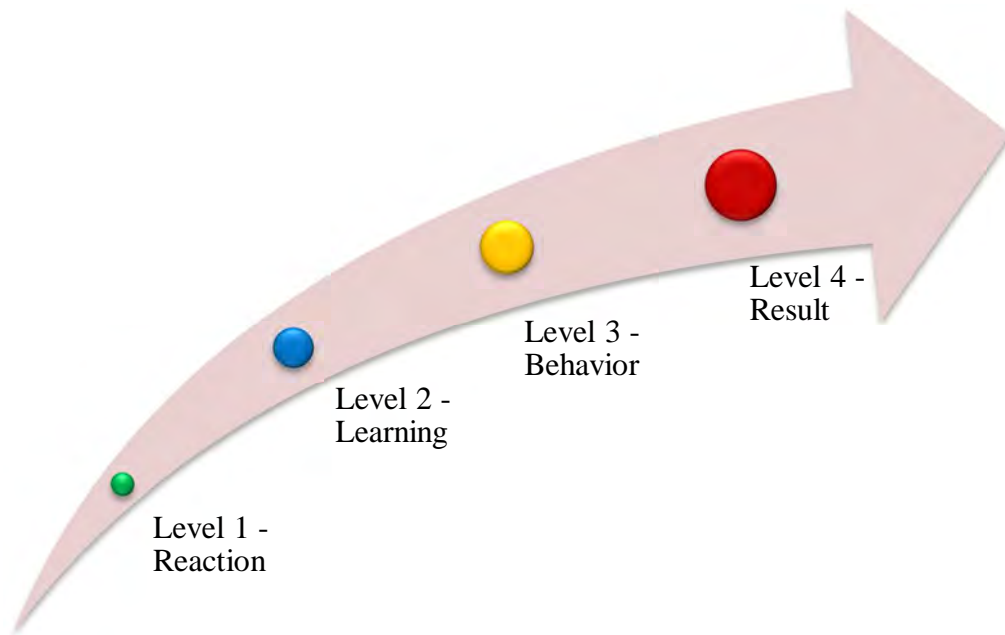


Figure 2.4: Kirkpatrick's four levels of evaluation

Source. Adapted from King, E. & Nesbit, P. 2015. Collusion with denial: leadership development and its evaluation. *Journal of Management Development*, 34, 2, p4.

Of all the levels of the Kirkpatrick model, Level 1 (Reaction) as illustrated in Figure 2.4 is considered the easiest to administer (Gujarathi & Wankhede, 2012).

2.8.1. Level 1 - Reaction

Ozturan and Kutlu (2010) defined the Reaction level as the degree to which the participant reacts to the training in the course; measured by how the participants feel about the training experience. Generally, this level centres on the participants' satisfaction with regards to the training programme (Curado & Martins Teixeira, 2014). Participants are asked questions relating to the enjoyment of the training and if they have actually learnt from the training (Steensma & Groeneveld, 2010). The method usually employed to illicit information on satisfaction levels is surveys; which is sufficient for this level of the model but they are limited when used to measure the participants' learning, which is needed for the Level 2 of the model (Curado & Martins Teixeira, 2014).

2.8.2. Level 2 - Learning

“Learning” is defined as a measure of how well the participants retain the training material from the programme (Steensma & Groeneveld, 2010). Buganza et al. (2013) similarly define this level as the extent to which participants are able to acquire the intended skills, confidence and knowledge owing to their involvement in the training. The importance of this level can be found in the assessment of the change in skills, attitude and knowledge (Curado & Martins Teixeira, 2014). Along with Level 1(Reaction), Level 2 (Learning) is considered to evaluate the internal validity of the training programme, with Levels 3 and 4 being considered as the assessment of the external validity (extent to which the training is transferred back to the job and ultimately the company) (Steensma & Groeneveld, 2010).

2.8.3. Level 3 - Behaviour

Level 3 moves the participant back to their work to examine the degree to which they can apply what they learnt to their actual job (Buganza et al., 2013). Kennedy et al. (2014) defined this level as the degree by which the participant can apply their newly acquired skill from the training to on-the-job behaviour. This level is known as the “transfer measure” which comprises the measurement of the behavioural changes, like improved attitude, when the participant returns to their original work area (Sam Joseph, Jennifer, Mark & Victoria, 2015). It is the most difficult level to measure in that the success of the training programme hinges on the participants being able to apply what they have learnt to their job (Curado & Martins Teixeira, 2014). According to Gujarathi and Wankhede (2012), Level 3 evaluations can be useful for refining the provided training process. Companies do not conduct Level 3 and Level 4 evaluations, often due to their time-consuming nature (as opposed to the other two levels) as well as due to the difficulty in accessing data for analysis (Kennedy et al., 2014). Saks and Burke (2012) found that Level 3 is significantly correlated with level 4, and hence the results of Level 3 impact Level 4 which ultimately agrees with the hierarchical nature of the model.

2.8.4. Level 4 - Result

The Result level measures the impact of changes that stem from learning and behavioural modifications resulting from the training (Sam Joseph et al., 2015). Although the long-term results may be affected by various other factors external to training, measurement of the effectiveness of training is important (Steensma & Groeneveld, 2010). Passmore and Velez (2012) defined Level 4 as the measurement of the effect that the training has on the

company's goals and objectives. At this level the success of the training programme is measured in terms of increased production, decreasing cost and as well as improvements in quality (Buganza et al., 2013). Not many companies use this level of evaluation as they rather concentrate on Levels 1 and 2; however, this has the negative implication of poor usage of the Kirkpatrick model (Giangreco et al., 2010). Though not fully explored by Kirkpatrick's model, return on investment (ROI), though difficult to measure, can be an important consideration when evaluating training programmes.

2.8.5. Return on investment (ROI)

The Kirkpatrick model only contained four levels, but a fifth level, that concerns ROI was added by Phillips, Stone and Phillips (2012). ROI for training is considered by comparing the cost of the training with the monetary benefits gained from the programme (Passmore & Velez, 2012). The addition of the ROI to the evaluation model creates a clear connection between actual benefits of the training against the cost of the training programme. If these two factors are in line with the other levels, then this ultimately shows evidence of the success of the programme (Phillips et al., 2012). ROI calculations benefit the training evaluation by improving the decisions around which training programmes to select; positively impacting cost monitoring and allowing for better justification of current and future budgets when considering training (Curado & Martins Teixeira, 2014). The Kirkpatrick model, along with the inclusion of ROI, through all its flaws still provides the most widely used model to evaluate training (Passmore & Velez, 2012). By having an efficient mechanism for evaluating the effectiveness of an e-learning programme, the programme quality can be verified but that does not prevent other barriers from stopping the programme before it can be evaluated.

2.9 Barriers to e-learning

E-learning as a learning tool has become widespread in many companies, however, it is sometimes found wanting due in part to misalignment between the content of the learning and the organisational goals (Wang et al., 2011). Aligning job competencies with e-learning programmes has become a critical success factor for making e-learning effective due to employees not being able to transfer knowledge from e-learning to their work activities, and hence not being able to find improvements in their performance which ultimately is detrimental to a company (Cheng, Wang, Yang, Kinshuk & Peng, 2011). Wang et al. (2011) suggested that e-learning should align to individual and organisational

needs through the use of the key performance indicators (KPIs) model which translates companies' mission and vision to a set of performance targets, thereby clarifying and aligning the learning needs of the company and employees and ensuring the learning process moves towards company goals. In agreement, Sawang., Newton and Jamieson (2013) found that learners (employees) were prone to adopt e-learning successfully when the e-learning was more "authentic", meaning it was based more on real world activities which relate back to their work tasks. They also outlined the need for organisational support as an important factor for the successful adoption of e-learning programmes.

Inglis, Mansvelt, Suddaby, O'hara and Gilbert (2009) listed an "unsupportive" manager as one of the stumbling blocks that hampers effective implementation of e-learning. Managers are being held accountable for performing human resource practices, including development of their employees (Ellinger, Hamlin, Beattie, Wang & Mcvicar, 2011). However, Nijman and Gelissen (2011) claimed results from studies concerning the effects of supervisor support on transfer of training (the extent to which learning from training programmes changes employee performance) remained inconclusive, contrary to popular belief that training was directly affected by the support of the manager. Wallo, Ellström and Kock (2013) found that managers in leadership roles encourage a learning environment and this leadership role can be seen as the role of an educator. Conclusively, Ellström and Ellström (2014) found that through their support of employee learning, managers can positively make a difference to the transfer of training and the learning outcomes as well as nurturing an environment of learning for their employees. Raymond, Uwizeyemungu, Bergeron and Gauvin (2012) cited manager support of e-learning along with attitude towards e-learning as factors that may affect adoption of e-learning programmes.

Employees' positive attitude towards e-learning systems can result in an increased likelihood of the employee adopting the system; this is governed by the employees' perceived usefulness (degree to which the system enhances employee job performance) and perceived ease of use (degree to which the system is believed to be effort free) (Park, 2009). Liu, Liao and Pratt (2009) found that by incorporating rich media (like streaming video or audio) in the e-learning programme allowed for better concentration on the part of the trainee as well as increasing its perceived usefulness; thus e-learning that uses rich media can encourage greater user acceptance through increased concentration as well as

stimulating higher levels of perceived usefulness. However, Lee (2010) found that user (employee) satisfaction with e-learning was the strongest indicator of user intention to continue with e-learning followed by perceived usefulness. Capece and Campisi (2013) added that user satisfaction (defined as degree of enjoyment experienced using e-learning for learning) from e-learning is crucial to the effectiveness of learning within a company since it creates a synergy between the acceptance of e-learning and the use thereof. Thus for e-learning to be successfully adopted as well as being successful for achieving learning, elements of employee attitude like perceived ease of use and satisfaction must be positive. A key component of e-learning and the ultimate result of the learning programme is the effects that are prevalent in employees after completion of an e-learning training session.

2.10 Effects of e-learning (employee specific)

Of the many effects of e-learning, knowledge and skill acquisition is a key area as can be clearly seen from the very definition of e-learning which centres on the acquisition of knowledge and skills through electronic means (Tsai, 2009). Computer assisted learning or e-learning has been proven to be an effective strategy for both theoretical and practical education (Bloomfield, Roberts & While, 2010). Hadley, Kulier, Zamora, Coppus, Weinbrenner, Meyerrose, Decsi, Horvath, Nagy and Emparanza (2010) obtained results confirming that e-learning led to an increase in the knowledge of a specific subject. In agreement, Jethro, Grace and Thomas (2012) stated that people using e-learning gain knowledge and skills faster than by traditional learning methods. Lahti et al. (2014) rejected this statement, finding that although e-learning leads to the acquisition of knowledge and skills, there was no difference between it and traditional learning in this regard but it provided an alternative learning method. Although e-learning is generally effective in improving knowledge, sufficient evidence of its effectiveness in improving skills has been found wanting (Salter et al., 2014). Along with the acquisition of knowledge, employees' motivational use of e-learning exposes another effect of e-learning on employees (Cheng, Wang, Moormann, Olaniran & Chen, 2012).

Motivational impact on e-learning is divided between extrinsic motivation which is defined as activity that leads to a desired objective outcome and intrinsic motivation which is an activity that does not lead to any desired goal apart from the enjoyment of the activity. Motivational impact can be seen in the usage of e-learning and hence the success of an e-learning system is dependent (among other factors) on how motivated the employee is to

completing the e-learning course (Hansen & Levin, 2010). They noted further that there was an increase in extrinsic motivation when trainers of e-learning stressed the importance of the course. Sarmiento (2010) found that e-learning improved employees' motivation levels. Employee perceived motivation and the usefulness of an e-learning system are also positively associated with the quality of the e-learning system in terms of technology, information and the system itself (Chen & Kao, 2012). Chen, Hsu, Chang, Lin, Chang and Sung (2013) argued that the e-learning attribute of being able to learn anywhere, i.e. its accessibility, even at home, lends itself to increasing learning motivation. Capece and Campisi (2013) research added that through the satisfactory usage of an e-learning system there was an increase in the belief that e-learning can enhance motivation along with skills and knowledge. Xin and Xiaoting (2014) again stressed the need for quality e-learning programmes by stating that a good curriculum can stimulate the learning motivation of the employees. The motivational effect of continuing to use an e-learning system can be further enhanced by including training linked to career goals of the employees (Monique & Henri, 2014). Ultimately, the main aim of e-learning or any form of training is improved employee performance leading to greater productivity.

E-learning systems are designed for employee learning and training as well as for facilitating the transfer of acquired knowledge to their work area, thereby enhancing the employee's problem-solving abilities. Thus, employees gain beneficially from their use of e-learning (Chen, 2010). Edgardo, Carmen and Fabrizio (2010) found that the relationship between e-learning and labour productivity was inconclusive and that increases in labour productivity were inconsistent with increases in e-learning investment. However, Florea (2010) argued that some companies experienced radically improved productivity as a result of e-learning which also led to a host of benefits like increased innovation, employees that are more inspired, and building competitive advantage. Aydoğdu Karaaslan (2013) found that the majority of employees believed e-learning to support their productivity but the author stated that e-learning was deemed beneficial by those employees that actively used the programme; this relates again to the motivational aspects of e-learning. Ellis and Kuznia (2014) found that the majority of the employees in their study believed e-learning to lead to higher productivity but a smaller number of employees actually gained higher productivity, this can be attributed to insufficient training on the e-learning system. Therefore, the more comfortable employees are with the e-learning system, the greater the productivity and satisfaction. Caudill and Reeves (2014) expanded on the productivity

effect of e-learning by stating that e-learning supports employee productivity which in turn is used to support the product and finally this delivers value to customers. The use of Wiki technology (a tool of e-learning) supports collaboration in the corporate environment and can reduce inefficient work activities that consume valuable time, thereby improving employee productivity (Lee & Bonk, 2014).

2.11 Summary

Businesses worldwide face the challenge of increased competition through globalisation and have turned to their human capital as a source of differentiation and competitive advantage. To have a truly outstanding, innovative, high performing human capital, companies look to invest in training and development initiatives, of which e-learning has begun to garner greater attention over traditional learning methods due to its effectiveness as a training method.

This chapter started with the showcasing of the broad topic of training and development and its importance to companies, through to its impact on their employees. It touched on the various training methods with a discussion on the explosion of technology which has led to the evolution of training and development. From this technological “tsunami” the emergence of e-learning as premier tool for training employees was discussed along with its benefits, the effect it has on employees, comparisons with traditional learning and the important concept of the effectiveness of an e-learning programme, which can be disseminated through evaluation models like the timeless Kirkpatrick’s four level evaluation model. To gain a comprehensive and critical understanding of e-learning, the barriers to it were described as well as the central effects that e-learning manifest in employees with regard to their company.

While the pertinent literature reviewed provides ample evidence to support the notion of e-learning as a breakthrough and effective training strategy, that gains companies a much needed competitive advantage through the performance improvement in their employees, there appears to be a fundamental lack of evidence supporting the effectiveness of e-learning initiatives as well as the effect on employees employed, at a cellular phone service. Clarity, through accurate and insightful research, on this academic and practical gap is needed, starting with the methodology that is articulated in the next chapter.

Chapter Three

Research Methodology

3.1 Introduction

Following from the literature review of the previous chapter, there appears to be a clear area of research that is lacking in terms of e-learning with regard to the South African mobile cellular operator, Vodacom. Research into the effectiveness of e-learning at this major cellular operator will assist their management to determine if e-learning is appropriate for their employees. Thus, a compelling argument is provided for the academic as well as corporate need and importance of research in this topic at Vodacom. This chapter starts with a brief overview of Vodacom, followed by the aim and objectives of the study. The research methodology that was used for the study is discussed thereafter, with the type of study, the approach used and a detailed analysis of the sampling that was performed. The data collection strategy will then be delved into, followed by a view on the data analysis that was performed as well as the ethical considerations taken.

3.2 Overview of Vodacom

Vodacom is the largest mobile communications operator (by market share) in South Africa with close to 60 million subscribers across Africa (Mzekandaba, 2014). This company, founded in South Africa in 1994, has expanded to other parts of Africa like Tanzania, Democratic Republic of Congo, Mozambique and Lesotho, and is majority owned (65% holding) by Vodafone, the world's leading mobile communications company by revenue (Vodacom, 2014a). Vodacom has 7225 employees worldwide with 4829 being in South Africa and they have spent approximately 77 million rand in training for 2014 (an increase of 37.5% from 2013), highlighting the importance of training and development (Vodacom, 2014b). The importance placed on their human capital makes Vodacom an organisation that values training and hence this research into the effectiveness of e-learning is significant and relevant to the company.

3.3 Aim and objectives

Farrell (2011) defined the aim of a research study to be the goal of that study as well as the strategic direction of the research. It is the starting point of a research topic through which flows the direction of the research, such that having a definite aim provides the

characteristic of purposiveness to the research study (Sekaran & Bougie, 2013, p.20). Objectives describe how the overall aim of the research will be achieved, through the translation of the aim into operational statements (Abdulai & Owusu-Ansah, 2014).

3.3.1. Aim

E-learning is fast becoming a popular learning tool due to its adaptability and its flexibility in catering for learners' needs, from the ability to learn over great distance, to its self-paced nature. The aim of this research was to study the effectiveness of e-learning programmes at Vodacom as perceived by its employees.

3.3.2. Objectives

As stated, the objectives are operational statements that are used to achieve the aim of the research. For the study of e-learning the objectives will consider the various effects that e-learning has on the employees, thus providing a complete view of the effectiveness of the e-learning programmes at Vodacom. The objectives are listed as follows:

- To ascertain the degree of satisfaction that employees have with the e-learning programmes at Vodacom.
- To determine level of retention of knowledge that employees have been able to achieve after e-learning programmes.
- To assess how effectively employees have applied what they have learnt from e-learning programmes in their current work environment.
- To establish if e-learning has increased motivation at Vodacom.
- To determine if e-learning programmes have improved productivity at Vodacom.
- To identify barriers to e-learning at Vodacom.

With the aim and objectives providing the direction and goal of the study, essentially the 'what' of the study, the research design explains the 'how' of the study which starts with the type/purpose of the study (Abdulai & Owusu-Ansah, 2014).

3.4 Type of study

Kothari (2011) categorised the types of research studies into three broad categories, namely exploratory studies, descriptive studies and hypothesis testing studies. Sekaran and Bougie (2013, pp. 96-98) categorised the same three types of studies but they described

hypothesis testing as causal studies. They stated further that the nature of the study is dependent on how far knowledge of the topic has advanced, with exploratory studies being new areas of business research, to the descriptive studies which comprise a description of phenomena of interest, to the hypothesis testing studies which examine if the conjectured relationship exists. Based on Kothari (2011) and Sekaran and Bougie (2013, pp. 96- 98) Figure 3.1 summarises all three types of studies.

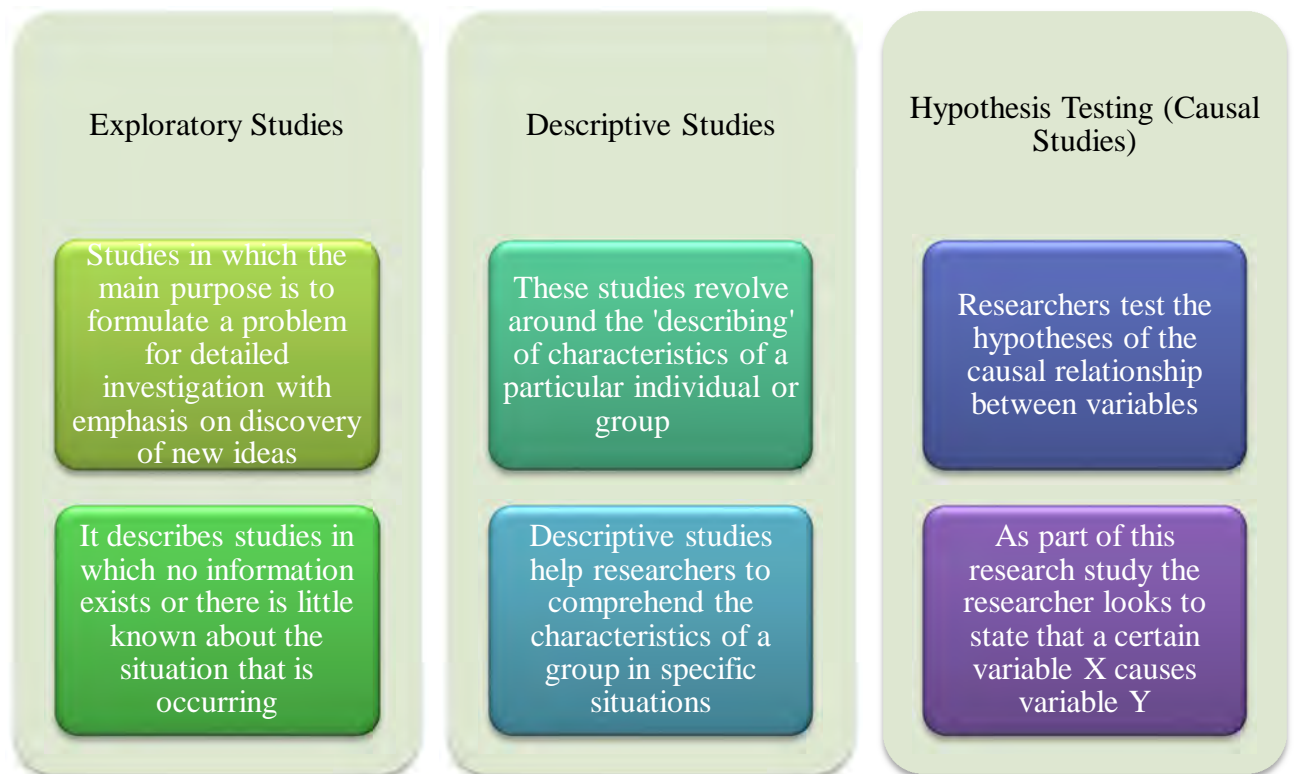


Figure 3.1: Types of research studies

From the research studies listed in Figure 3.1, the most appropriate type of study for this project was a descriptive study as the research attempted to describe the perceptions of the employees in relation to e-learning. This research project has undertaken to study the effect on employees given that they have taken part in some form of e-learning. Hence, as prescribed by Kothari (2011) and Sekaran and Bougie (2013, p.97), the type of research study selected was a descriptive research study. It should be noted that descriptive studies can use quantitative or qualitative data (Sekaran & Bougie, 2013, p.97). The choice between using quantitative or qualitative data is important as the data collection approach affects the results of the study (Saunders, Lewis & Thornhill, 2009).

3.5 Approach (Quantitative/Qualitative)

According to Kothari (2011), the quantitative approach to research is based on the measurement of amounts or quantities, which includes the generation of data in a quantitative form such that the data can be analysed using quantitative methods. Using such data, the research is able to infer characteristics of the population under scrutiny. Similarly, Sekaran and Bougie (2013, p.3) stated that the quantitative approach involves data in numeric form, mainly gathered through structured questions. Kothari (2011) described the qualitative approach as research that concentrates on the subjective review of attitudes, behaviour and opinions and which generates a non-quantitative form of results that cannot be scrutinised using quantitative analysis. Sekaran and Bougie (2013, p.3) added that qualitative data is in the form of words that are mainly gathered through interviews. Abdulai and Owusu-Ansah (2014) compared the characteristics of quantitative research to qualitative research, as listed in Table 3.1.

Table 3.1: Qualitative versus quantitative research

Quantitative research methodology	Qualitative research methodology
Inquiry into social or human problem measured with numbers to determine if the generalisation of the theory holds true	Inquiry process for comprehending a social or human problem formed with words reporting detail view of participants
Can objectively measure truthfulness or reality in the world	In the world truthfulness or reality can be measured subjectively
Researcher remains distant and independent of what is being researched	Researcher performs interviews at participants' sites and is highly involved in the participants' experiences
Researcher's values are kept out of the research	Research is considered to be personal and researcher self is inseparable
Deductive form of reasoning	Largely inductive
Questionnaires with largely closed-end questions are used to collect data	Data is collected primarily through interviews with predominately open-ended questions

Source. Adapted from Abdulai, R. T. & Owusu-Ansah. 2014. Essential Ingredients of a Good Research Proposal for Undergraduate and Postgraduate Students in the Social Sciences. Sage Open. Sage Publisher. p9

Table 3.1 lists the characteristics of quantitative and qualitative research. From the characteristics of quantitative data (for example “Researcher remains distant”) and the description of quantitative research it can be reasoned that quantitative research was well suited for this study. After collecting data on the topic of e-learning, the effects of this type of learning could be inferred on the total population of employees at Vodacom. The research was conducted without interference from the researcher. The data was collected from a larger number of participants and therefore the use of numbers to represent the data was considered to be the most appropriate choice. Hence, the approach used was that of a quantitative research topic. The next research consideration was the selection of the sample.

3.6 Sampling

Sampling is born from the need for research of a large number of individuals or objects. Sekaran and Bougie (2013, p.242) defined sampling as the process for selecting the correct individuals or objects as representatives of the entire population, in essence the sample is a subset of the population that is to be considered. Similarly, Cooper and Schindler (2014)'s basic idea of sampling involves the selection of some elements in a population, that are used to draw conclusions about the population as a whole. There are a few reasons for the use of sampling in research, the cost of collecting and analysing a large population set being one amongst them.

3.6.1. Reason for sampling

It will be extremely costly and time consuming to collect and analyse each piece of data from the total population. Therefore, researchers use sampling as a means to reduce the amount of data that needs to be collected and analysed (Saunders et al., 2009). Kothari (2011), along with the cost issue, also listed the following reasons for using a sample:

- Saving time. Sample research studies produce results quicker.
- Enables more accurate measurement.
- Sampling is the only method that can be used when the population size is infinite.
- Sampling allows for estimation of the sampling errors which in turn helps obtain information on some of the characteristics of the population.

The total number of employees at Vodacom South Africa is approximately 4829 (Vodacom, 2014b, p.45). Hence, the use of sampling for this research was necessary to help save time with the gathering and processing of the data from such a large population. Further to this, the survey for the study was sent to all of the Vodacom employees (4829) but there was no guarantee that all the data would be returned and therefore the use of sampling was necessary to ensure that, even though all the data may not be forthcoming, results could still be confirmed.

As indicated by Sekaran and Bougie (2013, p.244), Figure 3.2 describes the sampling process.



Figure 3.2: Sampling process

Source. Adapted from Sekaran, U. & Bougie, R. 2013. Research methods for business: a skill-building approach. 6th Edition, Chichester, West Sussex. John Wiley and Sons Ltd. p 244

Sekaran and Bougie (2013, p.244), as indicated in Figure 3.2, designed the sampling process that allows for the sample to be constructed from the right elements, so that it can be used to generalise the characteristics of the population. This process starts with the definition/description of the population of the study

3.6.2. Description of the population

The definition of population from a research perspective is the entire group of people, things or events that the researcher would like to use to for their investigation (Sekaran & Bougie, 2013, p.240).

The population for this study was the employees of Vodacom. Vodacom has offices situated throughout South Africa with its head office in Midrand, and thus the study was not limited to one specific South African region. The population of Vodacom is a culturally and racially diverse group of individuals with people from all walks of life and from different age categories.

3.6.2.1. Participants in study

The researcher intended to select participants from any of the Vodacom departments with no restriction placed on age or work experience. This was done to ensure that a holistic view of e-learning at Vodacom can be formed. Computer literacy was assumed as the questionnaire had to be answered online.

3.6.2.2. Sampling frame

Kothari (2011) described a sampling frame as a list of items that the sample is extracted from. Sekaran and Bougie (2013, p.245) added to this definition by stating that the sampling frame is a physical representation of all of the elements and they warned against the possibility of having coverage errors. These errors occur if the sample frame does not match the population exactly or if the sample frame is not correct or complete. Keita and Gennari (2014) elaborated further by stating that the sampling frame must exhaustively cover, without having overlaps, the total surveyed population. An example of a sampling frame would be a directory that lists all the population but this directory must be updated to remain correct and accurate or it can be used in conjunction with a database that captures the population (if such a database exists) (Cooper & Schindler, 2014).

The sampling frame used for this research was the Vodacom 'Global Address Book' which is an electronic email list of all Vodacom employees that is maintained by the internal Vodacom Information Technology (IT) department. This department ensures that the email list is kept updated when employees leave or when new employees arrive. The IT department also maintains individual email groups for each individual department so that the research survey can be sent to one department at a time (if necessary). There are also user databases for the various Vodacom internal software applications that can be used to cross check whether the sample frame is accurate. Since the population for the research had been selected and the sample frame created to list the population elements, the sample design set forth the mechanism used to select the population elements to make up the sample.

3.6.3. Sampling design (probability/non-probability)

Sampling design is defined as the plan by which the sample is obtained from the sampling frame (Kothari, 2011). In sampling design there are two major categories, probability sampling and non-probability sampling. In probability sampling the elements of the population have a known, non-zero probability of being selected in the sample for the research (Sekaran & Bougie, 2013, p.247). Probability sampling allows for the research to make probability-based confidence estimates (Cooper & Schindler, 2014). In non-probability sampling the population elements do not have a known chance of being selected (Sekaran & Bougie, 2013, p.252). Similarly, Cooper and Schindler (2014)

described non-probability sampling as a subjective approach in which the probability of an element of the population being selected is unknown. Table 3.2 lists the various probability and non-probability designs (Kothari, 2011).

Table 3.2: Probability and non-probability sampling design

	Representation basis	
Element Selection Technique	Probability sampling	Non-probability sampling
Unrestricted sampling	Simple random sampling	Convenience sampling
Restricted sampling	Complex random sampling (systematic sampling, stratified random sampling, cluster sampling, double sampling)	Purposive sampling (Judgment Sampling, Quota sampling)

Source. Adapted from Cooper, D. R. and Schindler, P. S. 2014. Business research methods 12th Edition. New York. McGraw-Hill/Irwin. p 361.

This study did not restrict the population to specific subsets and therefore the choice of sampling design was restricted to simple random sampling for probability sampling or convenience sampling for non-probability sampling (as seen in Table 3.2). Sekaran and Bougie (2013, p.247) defined simple random sampling as a sampling design in which every element of the population has an equal and known probability of being chosen. They noted that this type of sampling allows for the least bias as well the most generalisability but the process can be expensive and requires that the entire population list is available. Convenience sampling is the collection of information from the population who are available to supply it (Sekaran and Bougie, 2013, p.252). This sampling design has low generalisability but is the most convenient, time and cost effective sampling method. Therefore convenience sampling was the sampling design used for this study.

3.6.4. Sample size

Kothari (2011) defined sample size as the number of items that are selected from the population to make up the sample. Sekaran and Bougie (2013, p.266) considered precision (which is the closeness of the estimate to the true population characteristics) and confidence (which is the certainty that the estimate will be found to be true for the

population) in determining the sample size. Sekaran and Bougie (2013, p.268) have a table that lists a guideline of sample sizes for specific population sizes. By using this table and the Vodacom employee population of approximately 4829, the sample size for this research was 357.

3.7 Data collection

Data collection is the task that starts when the research problem is defined and the research design is completed (Kothari, 2011). Sekaran and Bougie (2013, p.113) listed two forms of data:

- Primary data is data which the researcher collects to address the specific research problem and which is sourced from individuals, focus groups and specific panels.
- Secondary data refers to data that already exists. This is sourced from company records or industry analysis.

For this research study the secondary data was Vodacom's integrated reports that were used to obtain information about the number of employees and the hours of training. The primary data collection methods are, as listed in Wilson (2014):

- Interviews. This is a common tool for business and management students for data collection and includes face-to-face, telephonic and focus group interviews.
- Questionnaires. This data collection method comprises a series of questions that are designed to illicit information suitable for achieving the objectives of the study. It includes postal, email, online or faxed questionnaires.
- Observation. Used mainly for qualitative research, it entails the observation and recording of subjects that are part of the study.

Kothari (2011) stated that questionnaires are used extensively for business and economic surveys and that an advantage of this data collection method is that the respondents have sufficient time to provide well thought out answers. Sekaran and Bougie (2013, p.147) remarked that questionnaires are an efficient method of data collection for descriptive studies. They further stated that questionnaires are considered less costly and time consuming, however, this method does suffer from large numbers of non-responses. The data collection method used for this study was a questionnaire. This method is the most effective seeing that interviewing or observing such a large number of individuals (sample of 357) is inefficient and time intensive. The types of instruments are personally

administered questionnaires, mailed (postal, faxed or couriered) questionnaires as well questionnaires distributed through electronic means (Sekaran & Bougie, 2013, p.147).

3.7.1. Instrument

Personally administered questionnaires are best used when the research is restricted to a specific area allowing for the questionnaire to be administered and collected personally (Sekaran & Bougie, 2013, p.147). The shortfall of this instrument is that the environment where the questionnaire is to be administered needs to be free of distraction for the respondents (Cooper & Schindler, 2014). Mailed questionnaires have the drawback of needing follow-up procedures for non-responses (Sekaran & Bougie, 2013, p.148). The instrument of choice for this study was an electronic questionnaire. Advantages of electronic questionnaires can be seen by the ease of administering the questionnaire, the global reach of questionnaire, the fast delivery as well as the cost effectiveness of an electronic questionnaire. It does have the disadvantages that the respondents must be computer literate and have access to computer facilities (Sekaran & Bougie, 2013, p.148). The disadvantages do not apply in the case of the research being held at Vodacom where most of the employees are computer literate and have access to computer facilities, notwithstanding the very nature of the study which is on e-learning which is electronic in nature.

3.7.2. Construction of instrument

Sekaran and Bougie (2013, p.149) listed three areas of focus for the questionnaire design/construction, with the first being the wording of the questions. They listed the content of the questions, how the questions are worded, the type and sequencing of the questions as well as the consideration of personal data that is needed from respondents as important factors to consider. For the consideration of content, the questions as found in Appendix 1 were linked to each objective as follows:

- To ascertain the degree of satisfaction that employees have with the e-learning programmes at Vodacom.
Questions 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18
- To determine the level of retention of knowledge that employees have been able achieve after e-learning programmes.
Questions 19, 20

- To assess how effectively employees have applied what they have learnt from e-learning programmes in their current work environment.
Questions 21, 22, 23, 24
- To establish if e-learning has increased motivation at Vodacom.
Questions 25, 26, 27
- To determine if e-learning programmes have improved productivity at Vodacom.
Question 28
- To identify barriers to e-learning at Vodacom.
Questions 16, 17, 29

The question content and wording also considered factors, as suggested by Cooper and Schindler (2014), such as:

- Double-barrelled questions – Questions must not require multiple answers or too much information.
- Presumed knowledge – Questions must not assume prior knowledge that respondents may not have.
- Objectivity – The questions must not include the researcher’s bias.
- Sensitivity – Questions should not ask respondents to reveal sensitive information about the person or the business.
- Shared vocabulary – Questions should be structured to not have a different meaning for the respondent than for the researcher.

Questions in the questionnaire did not include leading questions or ambiguous questions, as suggested by Sekaran and Bougie (2013, p.151). It should be noted that all questions were closed-ended questions, thus ensuring that respondents were given fixed choices and responses were not open to interpretation.

According to Sekaran and Bougie (2013, p.211), another consideration for the questionnaire design pertains to the categorisation, scaling and coding of the responses. They defined scales as a mechanism for distinguishing how much individuals differ on certain variables in terms of the study in question. They listed the types of scales as a nominal scale (subjects can be assigned to certain groups), ordinal scale (categorises and ranks variables), interval scale (allows the certain mathematical operations to be performed on data), and ratio scale (measures magnitude of differences between points on the scale as

well as the proportions of the differences). The scaling techniques include rating scales that are used to judge an object against some specified criteria, and ranking scales where the judgment of objects is against similar objects (Kothari, 2011). The types of scales that were of this study are displayed in Table 3.3. A copy of the questionnaire is in Appendix 1.

Table 3.3: Types of scales used in the instrument

Scale	Type	Data Type	Question
Rating	Dichotomous	Nominal	11,14,23
	Multiple choice, single response	Nominal	3,4,5,9,12,13,15,16,17,18,20,21,22,24,25,26,27,29
	Multiple choice, multiple response	Nominal	7
	Likert scale	Interval	10,19,29
	Multiple choice, single response	Ratio	1,2,6,8

The categorisation of the questions (as found in Table 3.3) is based on the type of scales that are used in the research instrument. The wide range of scales used ensured that rich data could be obtained to make significant observations.

Sekaran and Bougie (2013, p.154) suggested that the general appearance of the questionnaire should:

- ✓ have a good introduction that identifies the researcher and conveys the purpose of the study;
- ✓ be organised in a good, logical sequence with demographic questions at the start; questions must also contain simple instructions on how they must be completed; and
- ✓ have simple and short questions.

These guidelines were followed for the questionnaire.

3.7.3. Validity/reliability

To ensure the credibility of a research finding two particular areas need emphasis, those being reliability and validity (Saunders et al., 2009). According to Sekaran and Bougie (2013, p.225), validity tests how well the instrument that is developed for the study measures the concepts it is meant to measure and reliability tests how consistently the

instrument measures the concepts it is meant to be measuring. They stressed the importance of reliability and validity of a study as that attests to the scientific rigour of the study. Cooper and Schindler (2014) classified validity into three forms:

- Content validity
- Criterion-related validity
- Construct validity

Content validity is the extent to which the measuring instrument provides sufficient coverage of the research questions that guide the study. This can be achieved through the use of a panel of individuals to judge the content validity of the instrument or through the judgment of the research designer. The study questionnaire can be judged on content validity where the content of each question is linked to the objectives of the study. Along with this 'face' value judgement, some of the objectives are linked to Kirkpatrick's four levels of evaluation which is a model used to evaluate the effectiveness of a training programme. Hence, by linking the objectives directly to this model and then the questions to the objectives, the questionnaire was able to evaluate the e-learning programme at Vodacom.

According to Sekaran and Bougie (2013, p.228), reliability can be gauged through the stability of the measure (ability of the measure to remain unchanged over time) and the internal consistency of the measure (the homogeneity among items in the measure, which taps the construct). Stability can be tested with:

- test-retest reliability
- parallel-form reliability

Internal consistency of measures can be examined using:

- inter-item consistency reliability
- split-half reliability

Inter-item consistency reliability which tests the consistency of the respondents answers to all items in the measure. Cronbach coefficient alpha is the most popular test of internal consistency. The study used Cronbach's alpha after the data had been collected as indicated in Section 4.3

3.7.4. Pre-test/Pilot study

According to Saunders et al. (2009), the questionnaire should be pilot tested prior to the questionnaires being used for data collection. They describe the purpose of the pilot study as the refinement of the questionnaire such that the respondents will not have any issues answering the questions. This includes discovery of questions that are ambiguous or to determine that the questionnaire has not included major topics and that the instructions are clear and the layout of the questionnaire attractive. Cooper and Schindler (2014) stressed the importance of pretesting or pilot testing the questions before the start of the study as a means to improve the survey/questionnaire. They stated that pretesting allows for the discovery of ways to increase respondents' interest, being able to ascertain the engagement levels of the respondents, finding out problems in question content and wording (like discovering double-barrelled questions) and exploring improvements that can be made to enhance the quality of the data from the questionnaire. The pretesting or pilot study may be skipped if the research attempts to compress the research time frame (Cooper & Schindler, 2014).

Pretesting was done with four Vodacom employees to determine if the questionnaire was well constructed and would achieve the aims. After the pre-test, minor corrections to the flow of the questions were made. Some of the branching logic of the questions as structured in QuestionPro needed correcting.

3.7.5. Administration of survey

The actual administration of the survey is the final stage of the data collection process. Saunders et al. (2009) suggested that for internet- or intranet-related questionnaires, a timetable should be created to identify tasks that are needed to be completed. They further suggested follow-up emails should be sent after the survey has been sent to ensure that respondents who have not completed the questionnaire be reminded to complete this task.

The questionnaire for this study, the letter of consent, and a cover letter were created and sent using the online research tool, QuestionPro. The questionnaire was administered via email. Each respondent received a hyperlink to the questionnaire in their email. By selecting the hyperlink the respondents were directed to the QuestionPro website with the questionnaire loaded for their input. In line with the suggestions by Saunders et al. (2009), three follow-up emails were sent to those respondents who had not completed the survey.

Due to a lack of time after the follow-up email, the instant messaging tool 'Microsoft Lync' was used to contact respondents directly.

3.8 Analysis

Sekaran and Bougie (2013, p.276) stated that once the data has been collected, it must be coded, keyed in and edited before analysis can take place. They described coding as assigning a number to the respondents' responses and keying it in as the entry of the data into a database. The editing of the data allows for corrections if the data was coded incorrectly or the data entry was incorrectly performed (Saunders et al., 2009). Data editing also allows for data anomalies like blank responses or inconsistent data to be checked, followed up and corrected if necessary (Sekaran & Bougie, 2013, p.279). The use of technology assists in the reduction of data handling errors and decreases time spent between data collection and analysis (Cooper & Schindler, 2014).

Using the online software tool, QuestionPro, the data for this study was automatically coded and captured when the respondents entered their data on the QuestionPro website. This is in line with the suggestion of Cooper and Schindler (2014) to use technology to limit data handling errors. After the coding and any data editing, the data can be transferred to a statistical package like SPSS for analysis (Abdulai & Owusu-Ansah, 2014).

3.9 Ethical considerations

Permission to conduct the study at Vodacom was obtained from the executive head of Corporate Affairs (Appendix 2). Permission from each respondent was requested via an informed consent letter (Appendix 4). Ethical clearance (Appendix 5) was obtained from the University of Kwa-Zulu Natal.

3.10 Summary

This chapter has presented the research methodology that was employed for this study. The major areas covered in the methodology were the aims and objectives of the study, the type of study that was conducted, and the quantitative approach that was used. This was followed by a detailed discussion of the sampling decisions that were made as well as an analysis of the data collection methods that were used and the analysis that was to be performed on the data. Lastly, all ethical considerations that were made were described. The presentation, analysis and discussion of the data are provided in the next chapter.

Chapter Four

Presentation and Discussion of the Results

4.1 Introduction

This chapter provides a presentation of the primary data that was collected. The data collection was performed following the guidelines laid out in Chapter Three and the data was analysed using the SPSS software package. The analysis of the results is presented in multiple sections; the first being the demographic profile of the employees of Vodacom who participated in the study. The sections that follow are linked to each objective of the study. Thus, the findings are related back to the objectives of the study. The discussions of these results follow relevant prior research as expounded in Chapter Two.

A total of 533 respondents started the questionnaire but only 362 actually completed the entire questionnaire, resulting in a 67% completion rate. The time taken to complete the questionnaire, as calculated in QuestionPro, was nine minutes which was within the estimated range.

4.2 Treatment of data

Prior to the data analysis, an initial screening of the data was performed, such that data from incomplete questionnaires could be removed. The resultant revised data set was then exported to SPSS. The presentation of the data is in a graphical form (bar graphs) as well as in a table format and followed up with commentary on the results. This presentation style lends itself to easy interpretation and understanding of the results. Inferential statistics are presented using the Mann-Whitney U test and Spearman's rho correlation analysis. Percentages that have been used have been rounded up.

4.3 Reliability of the questionnaire

The questionnaire's reliability was tested by calculating Cronbach's Alpha. A total of 362 participants completed the questionnaire. Sekaran and Bougie (2013, p.293) stated that a Cronbach alpha of over 0.80 indicates that the reliability of the study is good. The Cronbach's alpha test showed that the data was reliable as the alpha value was 0.867, as reflected in Table 4.1

Table 4.1: Reliability test of the data set

Reliability statistics	
Cronbach's Alpha	N of Items
0.867	30

4.4 Demographic profile of participants

The demographic profiles of the participants, all of whom are Vodacom employees, are detailed in this section. The demographic characteristics considered are number of years that participants have been working for Vodacom, their age, gender, race and job level, i.e. their current position. These demographics provide a glimpse into the population of Vodacom employees and provide interesting concepts that may be used for future research as shall be described in Chapter 5. Table 4.2 below lists all the demographic data captured.

Table 4.2: Demographic data of the study

Description	Frequency	Percentage
Number of years employed at Vodacom		
< 5	89	25%
5-9	154	43%
10 or more	119	33%
Age		
20 – 29	38	10%
30 – 39	166	46%
40 – 49	117	33%
50 – 59	36	10%
> 60	4	1%
Gender		
Male	223	62%
Female	139	38%
Race		
Black	112	31%
White	109	30%
Coloured	71	20%
Indian	70	19%
Job Level		
Junior specialist	149	41%
Senior specialist	121	33%
Team leader	27	8%
Project manager	19	5%
Department manager	38	11%
Executive head of division	8	2%

4.4.1. Number of years employed at Vodacom

The number of years that the participant has worked at Vodacom gives an indication to the likelihood of being exposed to different forms of learning, including e-learning. The results show that the vast majority of the participants have worked for five or more years at Vodacom (Table 4.2). This indicates that participants are likely to have had a wide

exposure to different types of e-learning and also have good work experience to judge the e-learning programmes.

4.4.2. Age group

With regards to participants' age, it was found that the majority of the participants (78%) were between the ages of 30 and 49 years (Table 4.2). There appears to be little literature on the topic of participant's age and e-learning experience and these results may lay the foundation for future research.

4.4.3. Gender

More than half of the participants (62%) were male (Table 4.2). This is in line with the population of Vodacom which has a larger male population.

4.4.4. Race

According to Table 4.2, 31% of the respondents were Black followed by 30% White, 20% Coloured and lastly 19% Indian.

4.4.5. Current job level

The job level or work position provides a view of a generic hierarchy within each Vodacom department and under which category the participants can be found. When asked about their job level, the majority of the participants (75%) were working as specialists (junior and senior) (Table 4.2). This was an expected result as the majority of the participants who underwent e-learning would have been the entry level employees like the senior and junior specialists. The participation of department managers and the executive head of division adds value because the study can be seen from both the entry level employee and the highest level employee; thus giving a comprehensive picture of e-learning at Vodacom. An important note is that the study did not include board members or the chief executive officers,

4.5 Objectives of the study

The objectives of the study are linked to questions in the questionnaire, thereby ensuring that the data collected would be used to answer the research question. Each objective is connected to one of the levels in Kirkpatrick's four levels evaluation model which is the de facto standard that is used when assessing the effectiveness of a training programme (Salas

et al., 2012). The last objective, however, is linked to the barriers of e-learning as this factor contributes to the adoption of e-learning which is an important feature of the e-learning programmes at Vodacom. The presentation of the results of the data analysis for each objective and discussion thereof are set out below.

4.5.1. Objective 1 – Degree of satisfaction with e-learning programme

The first objective of the study was to ascertain the degree of satisfaction that employees had with the e-learning programmes at Vodacom. This is in-line with Level 1 of Kirkpatrick's model which is defined as the reaction level and measures how the participants feel about the training (Ozturan & Kutlu, 2010). This objective measures variables like hours spent on e-learning, level of enjoyment, and pace of e-learning. These variables are used to illicit information on the participants' satisfaction level with e-learning programmes.

4.5.1.1. Number of hours spent on e-learning

The participants were asked how much of time they spent on e-learning. Figure 4.1 depicts the number of hours the participants spent on e-learning

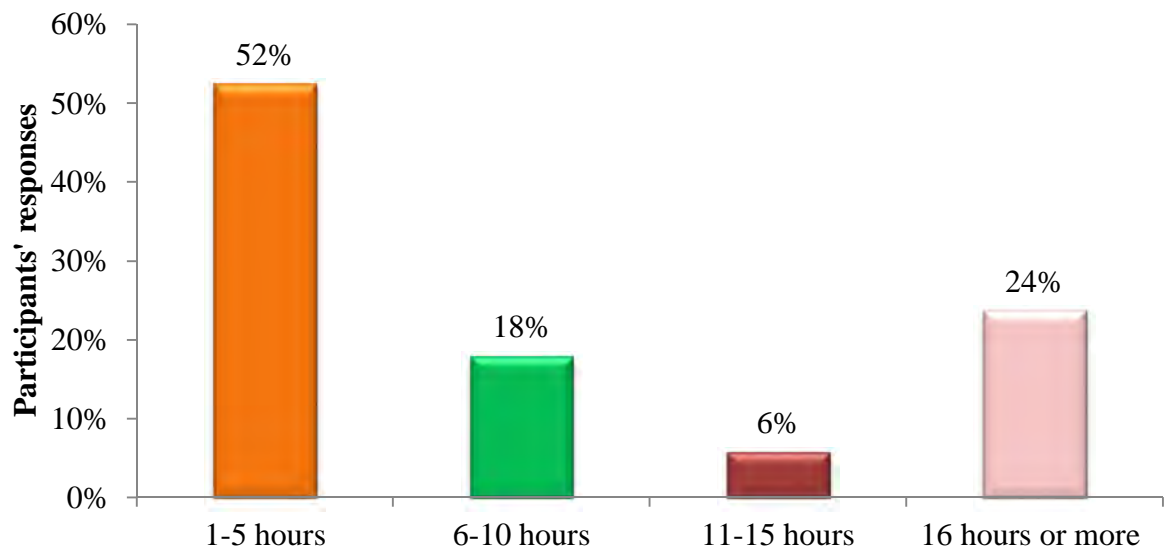


Figure 4.1: Number of hours spent on e-learning programmes at Vodacom

From Figure 4.1 it is evident that more than half of the participants spent less than six hours on e-learning programmes (52%). This indicates that e-learning courses have been short in duration, and therefore have had minimal impact on their work time. However,

24% of the participants indicated that they spent 16 hours or more which could indicate a greater number of e-learning courses attended. Similarly, Zhang et al. (2004) listed time flexibility as one of the key benefits of e-learning.

4.5.1.2. Type of e-learning experienced

Participants were asked to indicate all the types of e-learning they had experienced at Vodacom (Figure 4.2).

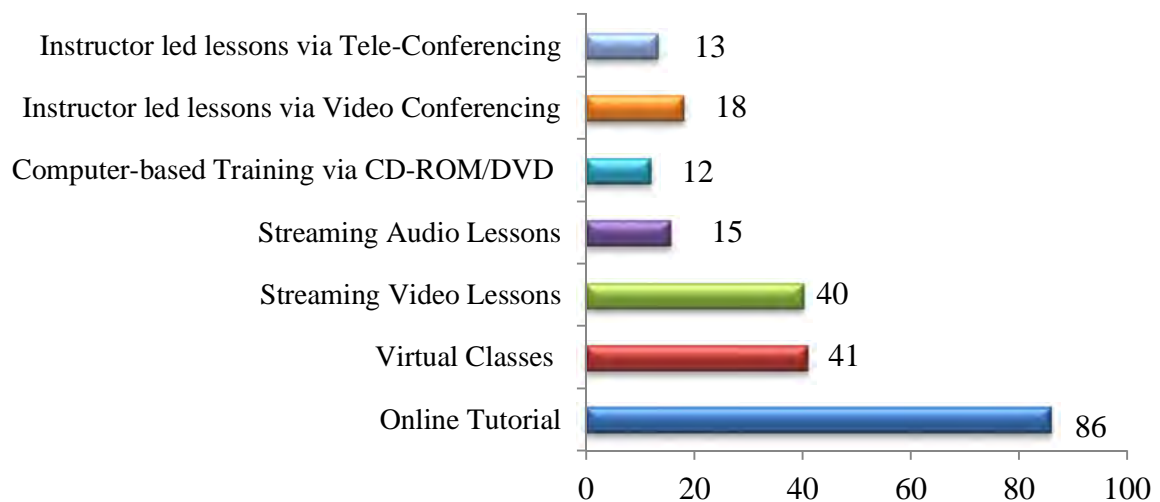


Figure 4.2: Types of e-learning experienced at Vodacom

An overwhelming majority of 86% of the participants indicated the use of online tutorials for their e-learning (Figure 4.2). The review by Salter et al. (2014) of studies in e-learning in pharmacy education revealed 14 studies that delivered e-learning with the most common interventions being online modules. This confirms the popularity of online tutorials as a form of e-learning.

4.5.1.3. Number of e-learning sessions

Participants were asked to indicate the number of e-learning sessions they engaged in (Figure 4.3).

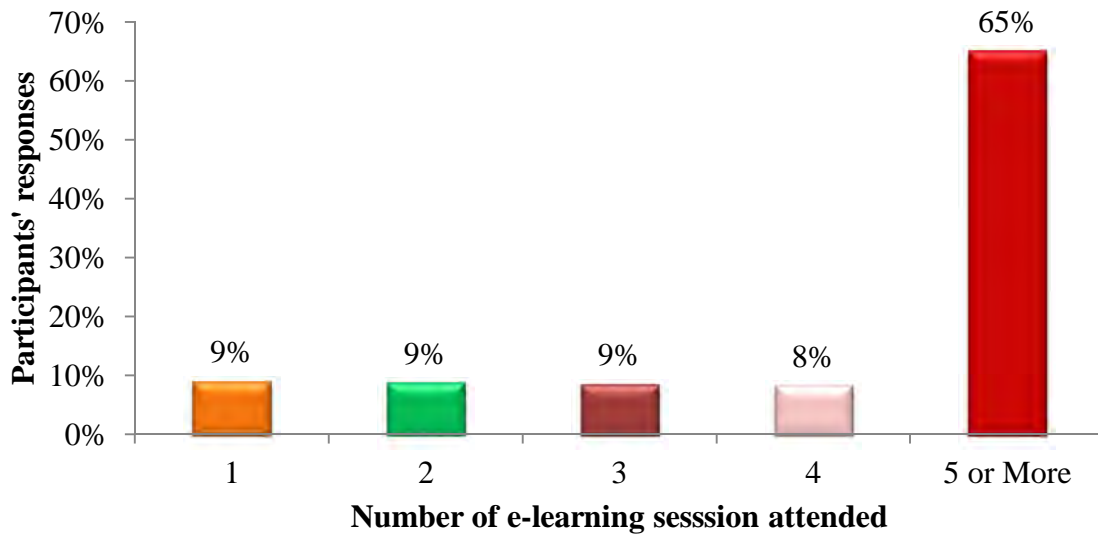


Figure 4.3: Number of e-learning sessions attended at Vodacom

Figure 4.3 shows that approximately two-thirds of the participants (65%) mentioned that they had attended e-learning five or more times. This indicates that the participants were familiar with e-learning programmes at Vodacom.

4.5.1.4. Level of enjoyment of e-learning

The participants were asked to indicate their level of enjoyment of the training via e-learning (Figure 4.4).

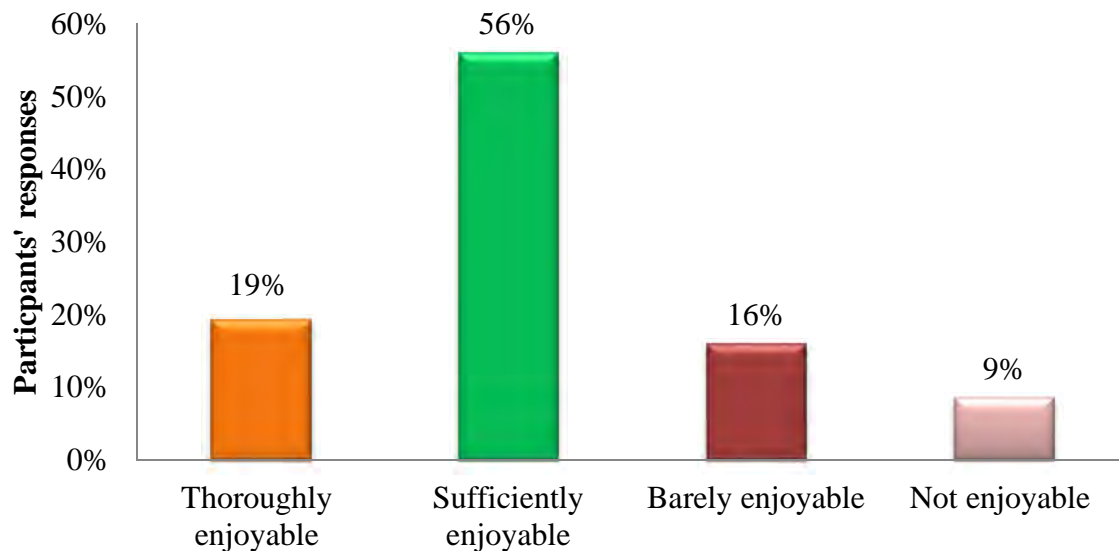


Figure 4.4: Levels of enjoyment with regards to training via e-learning

Only a fifth of the participants (19%) reported that they thoroughly enjoyed the training via e-learning; however, 56% of the participants found the e-learning to be sufficiently enjoyable (Figure 4.4). These two positive factors outweigh the negative elements with participants who barely enjoyed the e-learning only making up 16% of the total participants and those that found e-learning to be not enjoyable at an ever lower percentage of 9%. This conclusively indicates that the majority of the respondents enjoyed their e-learning experience, which according to the Kirkpatrick model is a key element of Level 1. The results noted are also consistent with the findings of the study carried about by Capece and Campisi (2013), where employee satisfaction with e-learning played a crucial role in the effectiveness of the organisation's learning.

4.5.1.5. Look and feel of e-learning

Capece and Campisi (2013) found that perceived ease of use of an e-learning programme indirectly influenced the satisfaction level of the programme. Hence the perceived ease of use of e-learning programmes at Vodacom was tested using the criteria of the appearance of the e-learning programme as well as how easily the e-learning could be navigated (Figure 4.5).

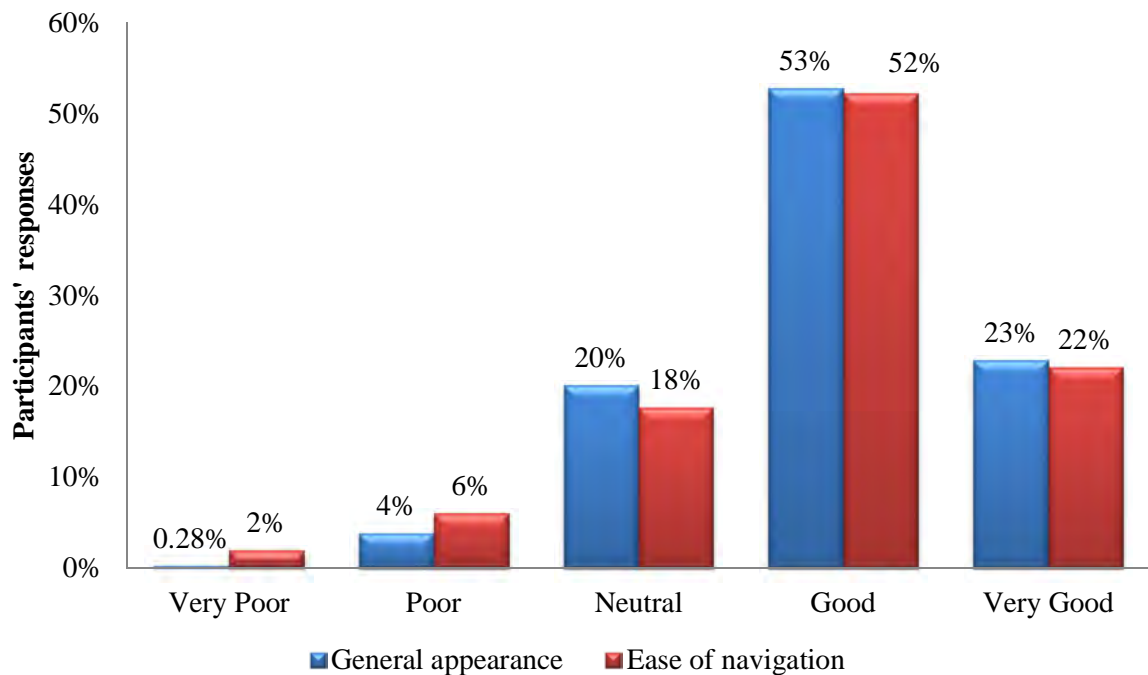


Figure 4.5: Rating of the e-learning programme which participants attended

It is evident from Figure 4.5 that the majority of the participants rated the general appearance and ease of navigation (greater than 70% for both criteria) as good or very good, whilst less than 4% of the population felt the appearance was poor and 6% and less felt that the e-learning programmes had poor navigation. A study carried about by Park (2009) found similar results when considering the perceived ease of use and adoption of e-learning. Their study established a significant relationship between perceived ease of use and university students' willingness to adopt e-learning programmes. This supports the results of this study and hence their satisfaction with e-learning programmes, which ultimately ties back to Level 1 of the Kirkpatrick model.

4.5.1.6. Like or dislike e-learning

The participants were asked if they liked e-learning or not. They were further probed as to the reasons for their choice. The results are presented in Table 4.3.

Table 4.3: Participants' views regarding e-learning

Variables	Frequency	Percentage
Did you like e-learning?		
Yes	274	75.69%
No	88	24.31%
If Yes, why? (n=274)		
They were interesting	30	10.95%
They are relevant to my work	103	37.59%
They contained accurate and up to date material	22	8.03%
They were easy to understand and the content was clearly explained	97	35.40%
None of the above	22	8.03%
If No, then why not? (n = 88)		
They contained inaccurate and outdated material	2	2.27%
They were difficult to understand	2	2.27%
They were not suited for my line of work	16	18.18%
They were dull and boring	41	46.59%
None of the above	27	30.68%

Table 4.3 highlights the participants' views of e-learning with 75.69% indicating that they liked e-learning and only 24.31% showing a dislike for e-learning. For the participants who liked e-learning their main reason (37.59%) was the relevance e-learning programmes had to their line of work. These results are similar to the study by Batalla-Busquets and Pacheco-Bernal (2013) in which workers felt that the training from e-learning was linked to their profession.

For the participants who did not like e-learning (88 in total), 46.59% (the overall majority) felt that the e-learning programmes were dull and boring. Liu et al. (2009) performed a similar study that examined media rich e-learning content and found that rich media

promotes greater acceptance of e-learning by the users. The results of their study support the findings in this study with the main reason for participants not liking e-learning being the aesthetic quality of the content.

4.5.1.7. Pace of e-learning

An important component of Kirkpatrick’s Level 1 assessment is the pace and style of the training. Therefore, participants were questioned on the pace of the learning from the e-learning programmes to gather if they were comfortable with this form of learning (Figure 4.6).

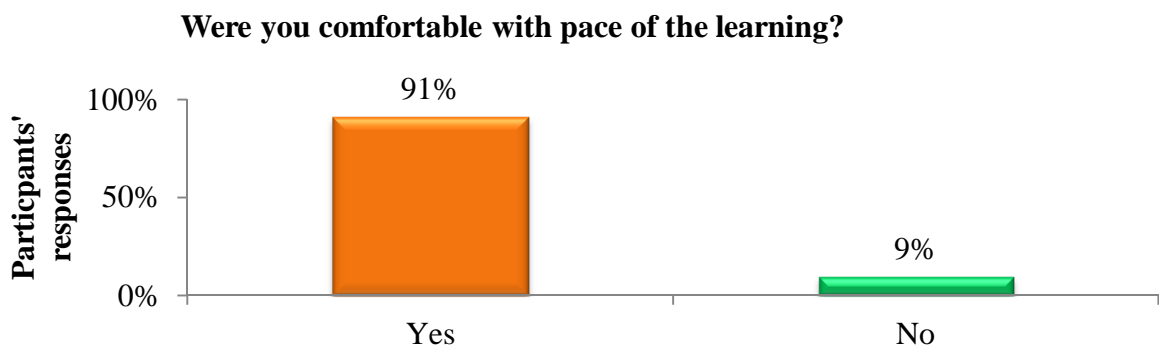


Figure 4.6: Pace of e-learning programmes

The results in Figure 4.6 depict that 91% of the participants were comfortable with the pace of e-learning. This indicates another positive aspect of e-learning in Vodacom as well as further illustrating the employees’ satisfaction with e-learning in-line with Level 1. The remaining 9% of the participants (15 in total) who were not comfortable with the pace were further questioned to determine the reason for this (Figure 4.7).

Reasons for not being comfortable with the pace of the e-learning

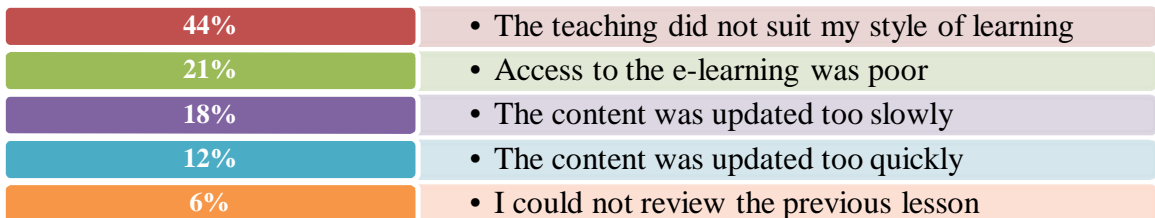


Figure 4.7: Pace of e-learning programmes

As shown in Figure 4.7, 44% of those who did not find the programme comfortable gave the reason that the teaching did not suit their style of learning. The results in the study by

Ossiannilsson and Landgren (2012) found that flexibility of e-learning in terms of learning style, time, place and space are critical for the success of e-learning programmes. Hence the e-learning programmes at Vodacom need to be flexible in terms of catering for different learning styles.

4.5.1.8. Effects of participation in e-learning programmes

As the last question to deal with the Level 1 of the Kirkpatrick model, the participants were asked their opinions regarding suggestions or recommendations following the conclusion of the e-learning programme (Figure 4.8)

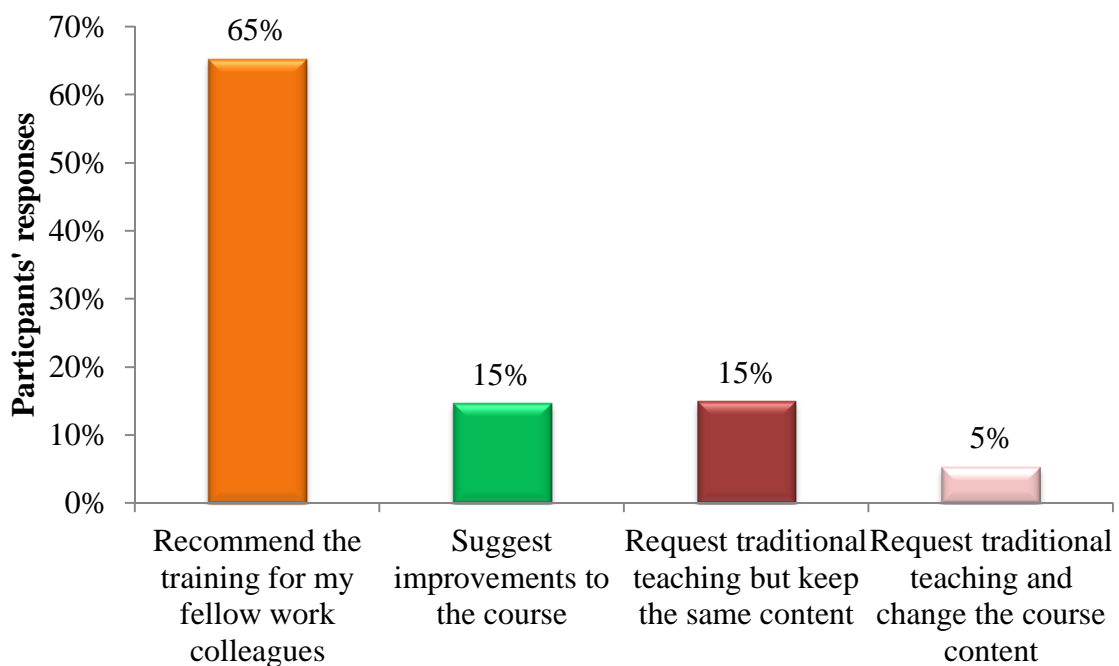


Figure 4.8: Suggestion or recommendation of the e-learning programme after completion

As indicated in Figure 4.8, 65% of the participants would recommend the training to their colleges, followed by 15% of participants who suggested the same content but using traditional training. This result vindicates the Level 1 of the Kirkpatrick model since the participants were satisfied to such an extent that they were willing to recommend this form of training to others.

4.5.2. Objective 2 – Retention of knowledge after e-learning

According to Steensma and Groeneveld (2010), the ability of employees to retain the training material after the e-learning programme is the central aspect of Level 2 of the Kirkpatrick evaluation model. This level, known as “Learning”, measures the improvements in skills, attitude, confidence and knowledge that are derived from the training (Buganza et al., 2013).

4.5.2.1. Effect after e-learning

To assess the retention of the training material in terms of improvements in skill, attitude, understanding and knowledge, the participants were asked to describe the effect that e-learning had on them after the training in terms of improvements in skills, knowledge, confidence and general attitude (commitment to work) (Table 4.4)

Table 4.4: Determination of the level of retention of knowledge

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree
My general skill level has increased	2%	16%	65%	17%
My confidence levels are greater	4%	22%	61.%	14%
My knowledge of the subject matter has increased	1%	8%	72%	19%
My knowledge has increased but not specifically in the subject matter	3%	31%	59%	7%
I have a greater understanding of my job	3%	29%	55%	14%
I have a greater commitment to my job	4%	31%	49%	17%
I am able to teach what I have learnt to others	4%	15%	62%	19%

It is evident from Table 4.4 that the majority of the participants agree that after the e-learning programmes their skill, confidence, knowledge and understanding have all increased. Regarding general skill levels, 65% of the participants agreed that their general skill levels have increased, 61% felt their confidence has improved, 59% felt their knowledge has increased but not specifically for the subject matter in the training. For the statement on increases in understanding of their job, 55% of the participants were in

agreement, with 49% also agreeing with the statement that e-learning had the effect of increasing commitment to their work. The statement surrounding the increase in the “knowledge in the subject matter” garnered the most agreement from the participants with 72% agreeing with this statement. This result is consistent with the study conducted by Hadley et al. (2010) who found that e-learning led to an improvement in knowledge. In relation to Level 2 of the Kirkpatrick model, the statement surrounding the ability of the participants to teach what they have learnt, 61% were in agreement. Being able to teach is a sign of confidence in one’s skills and knowledge.

4.5.2.2. Recall of e-learning material

The ability to recall training material is the central aspect of Level 2 of the Kirkpatrick model. The participants were requested to describe their recall of the training content (Figure 4.9).

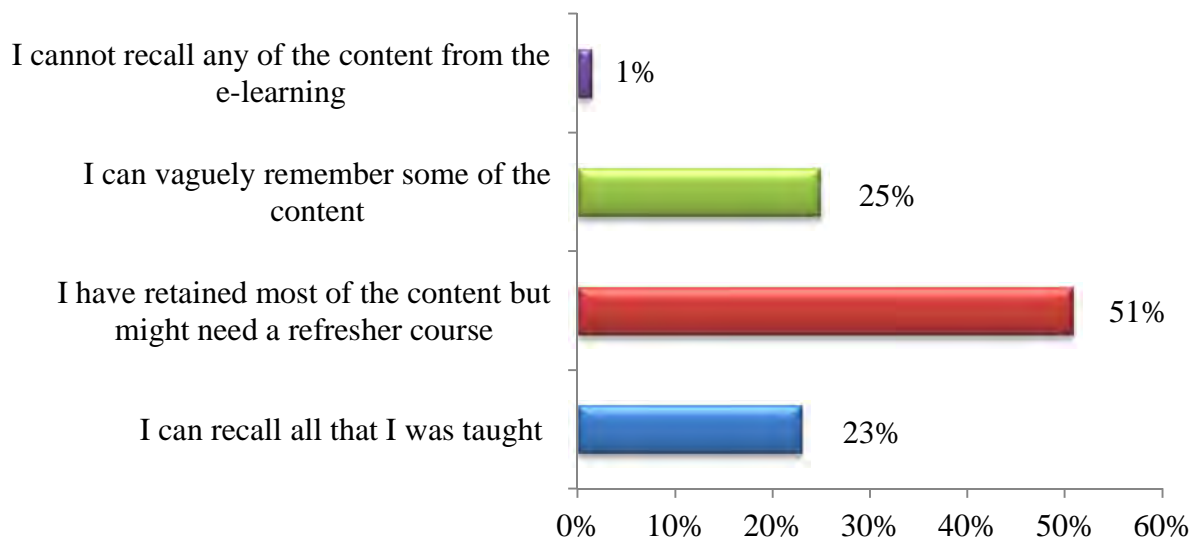


Figure 4.9: Description of the participants’ recall of the content

Examination of Figure 4.9 reveals that 51% of the participants retained most of the training material, with a further 23% stating that they have complete recall of the teaching they received during the e-learning programme. This result is consistent with the study by Bloomfield et al. (2010) which concluded that e-learning is effective in terms of knowledge retention.

4.5.3. Objective 3 – Application of e-learning to work

Buganza et al. (2013) described Level 3 of Kirkpatrick’s evaluation model as the stage when employees can examine the degree to which they are able to apply what they have learnt from the training programme. Level 3, known as “Behaviour”, measures how successfully employees can use the training they have learnt in their actual working environment (Curado & Martins Teixeira, 2014).

4.5.3.1. Extent to which e-learning skills can be applied

The participants were asked to indicate how well they have been able to apply the training they received from the e-learning programmes at Vodacom (Figure 4.10)

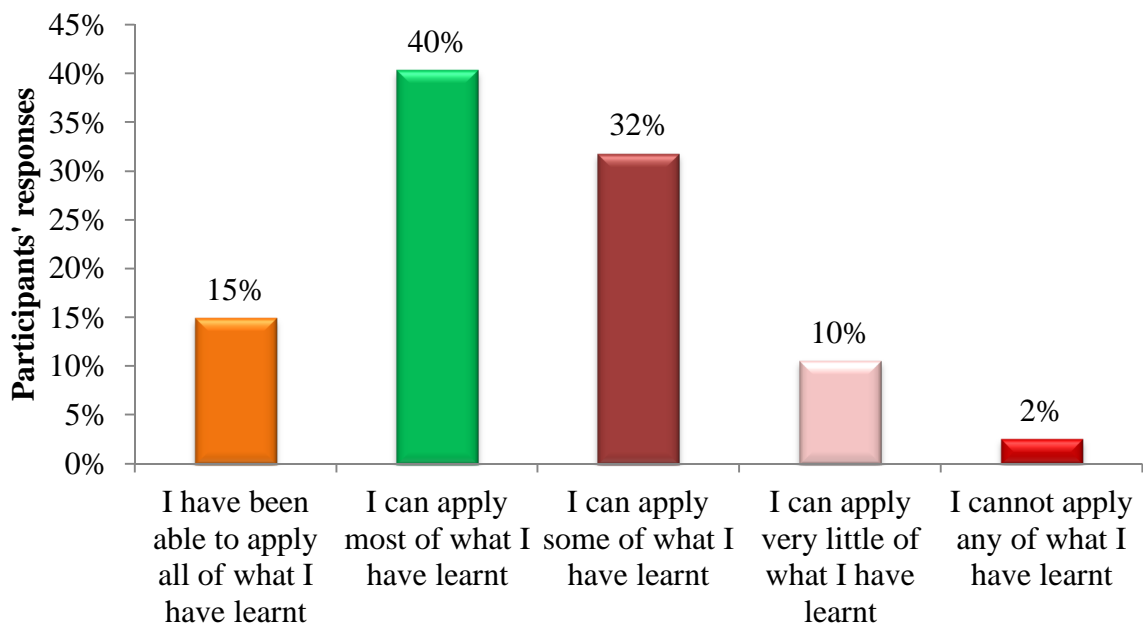


Figure 4.10: Extent of application of skills acquired from training to workplace

It is evident from Figure 4.10 that 40% of the participants indicated they can apply most of their training, with a further 15% indicating they can apply all of what they have learnt. This clearly indicates that the participants are able to apply the training that they have learnt. A concern is that 42% could only apply some or very little of what they learnt. This raises a question regarding the relevance of the programmes. Only 2% (9) of the participants were unable to apply any of the knowledge. To interrogate this further a question was asked of those specific participants (Figure 4.11)

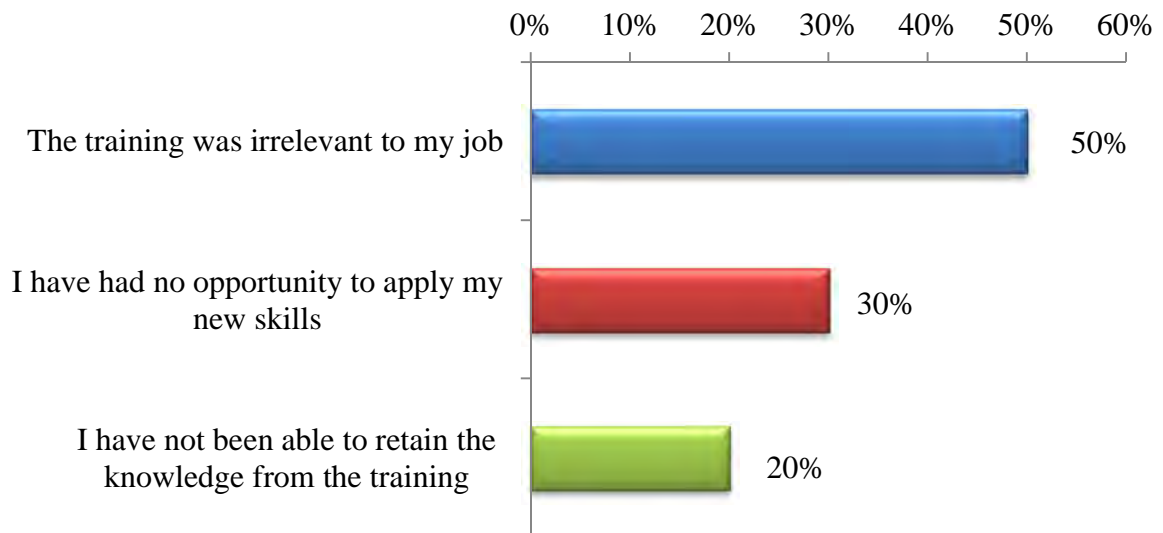


Figure 4.11: Reasons for not being able to apply training

It is evident from Figure 4.11 that the majority of the participants (50 %) for this question believed that the training was not relevant to their job. This highlights a possible flaw in the e-learning programmes at Vodacom; however, this is only applicable to a small number of participants and as such should not be considered a negative effect. This result is confirmed by the study of Sawang et al. (2013), who concluded that learners are more prone to applying e-learning training when the content they have been presented with is relevant and realistic.

4.5.3.2. Evaluation process for use of e-learning

Another factor contributing to the lack of application of training is the lack of reward or recognition of the application of the e-learning. To resolve this question, the participants were asked to indicate if there are processes in place to evaluate how well they have applied their e-learning, which is still in-line with Level 3 of the Kirkpatrick model (Figure 4.12)

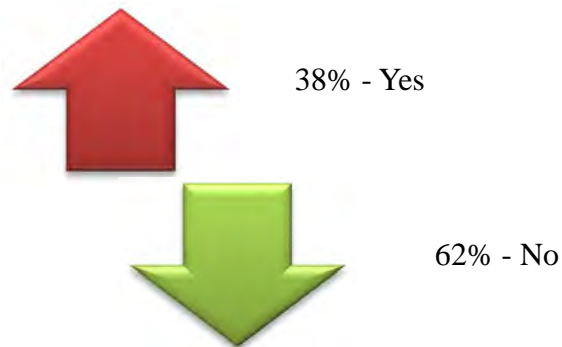


Figure 4.12: Are there processes in place to evaluate the application of e-learning?

Figure 4.12 shows that the majority of the respondents (62%) indicated that there was no process in place to evaluate the application of e-learning. Those that did have an evaluation system in place (38%) were asked to provide feedback on the outcome of the evaluations (Figure 4.13)

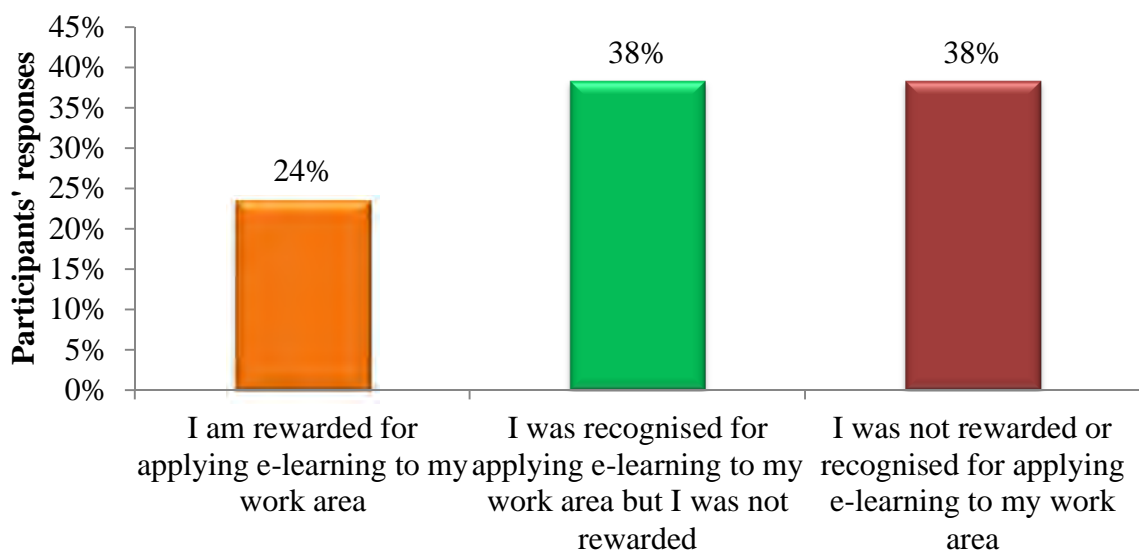


Figure 4.13: Outcome of evaluation of e-learning application in work environment

Less than a quarter (24%) was rewarded for applying their e-learning to the workplace. However, 38% of the participants indicated that they were recognised for applying e-learning but they were not rewarded (Figure 4.13). The same number of participants (38%) indicated that they had not received a reward or recognition for applying e-learning. This is an unfair practice which could in the future have negative implications for Vodacom and worse still for the adoption of e-learning.

4.5.4. Objective 4 – Motivational effect of e-learning

Level 4 of the Kirkpatrick model, known as “Result”, measures the effect of the training on the company’s goals and objectives (Passmore & Velez, 2012). The success of the training programme can be measured in terms of increased production as well as improvements in quality (Buganza et al., 2013). Level 4 of the Kirkpatrick model as measured in this study considered the motivation effect of the e-learning programmes as well as the productivity of the employees — this is discussed as part of Objective 5.

4.5.4.1. Motivational level

To gather the information on motivation levels, the participants were asked to describe their motivation level after completing the e-learning programmes (Figure 4.14)

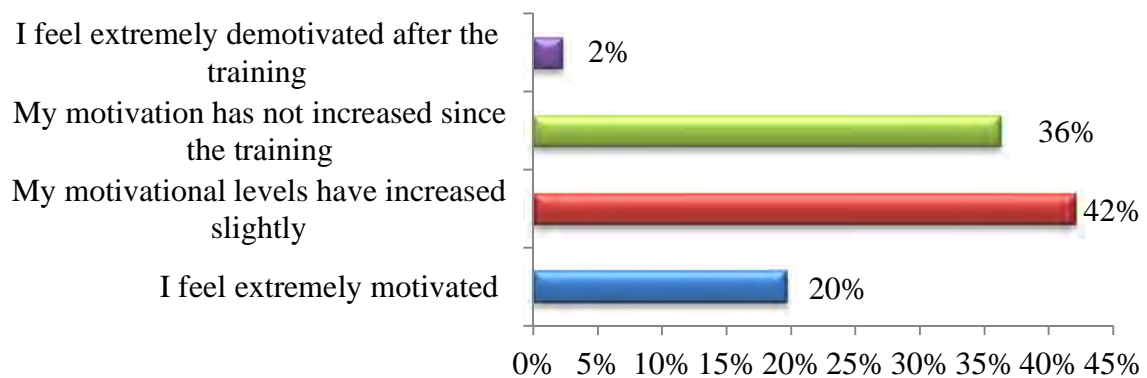


Figure 4.14: Motivational level after completing e-learning programmes at Vodacom

It is evident from Figure 4.14 that the majority (62%) of the participants felt that their motivational levels had increased, with 36% who felt that their motivation had not increased and a minority who felt demotivated after attending e-learning.

The reasons why respondents felt motivated are illustrated in Figure 4.15

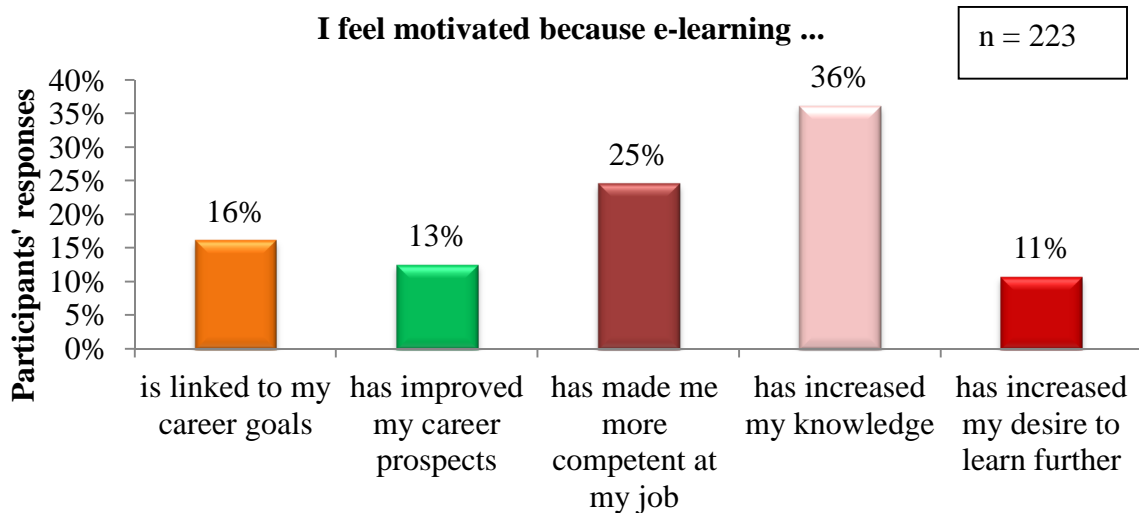


Figure 4.15: Reasons for feeling motivated

It is evident from Figure 4.15 that respondents were mainly intrinsically motivated as 36% felt that it improved their knowledge, 25% felt more competent at their job and 11% felt that e-learning stimulated a desire to learn more. Only 29% were extrinsically motivated in that they believed that e-learning helped them achieve their goals or that it improved their career prospects. Sarmiento (2010) found that e-learning contributed to employees' motivation which is in line with the results of this study. The results for those who did not feel motivated are illustrated in Figure 4.16

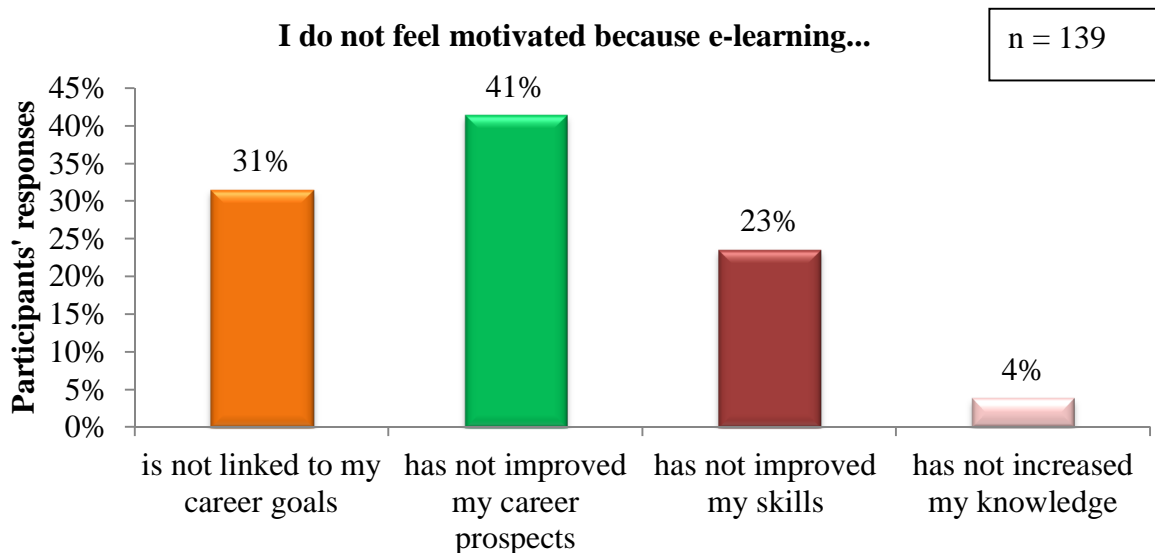


Figure 4.16: Reasons for not feeling motivated

As is evident from Figure 4.16 most of the participants (41%) did not feel motivated because the e-learning at Vodacom did not improve their career prospects, while a further 31% felt that the e-learning was not linked to their career goals. Compared to Figure 4.15, these respondents were mainly extrinsically motivated, seeing e-learning not being linked to their career as their main reason for not feeling motivated. Only 27% of these respondents were concerned with skill (intrinsic motivation). It can then be deduced that the lack of motivation stems directly from the non-impact e-learning has on these participants' careers. This result is confirmed by the study by Monique and Henri (2014) which found that the motivational effect of continuing to use an e-learning system can be enhanced by including training that is linked to the career goals of the employee.

4.5.5. Objective 5 – Productivity level after e-learning

Improved productivity provides a measure of the success of a training programme and is linked to Level 4 of the Kirkpatrick evaluation model (Buganza et al., 2013). The participants were required to indicate their opinions with regards to various productivity-related characteristics. The results of their responses are in Table 4.5

Table 4.5: To determine if e-learning programmes have improved productivity at Vodacom

Based on e-learning which I have received I feel that...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am more productive	3%	12%	32%	42%	12%
I have less customer (internal or external) complaints	4%	17%	37%	33%	9%
The quality of my work has improved	3%	14%	25%	45%	13%
I am able to work at a faster pace	3%	17%	32%	36%	13%
I am able to complete tasks more efficiently	3%	15%	26%	44%	13%
I am able to provide more innovative solutions	3%	13%	28%	43%	13%
I can interact confidently with my peers	3%	10%	26%	47%	15%
I can reduce waste	3%	13%	28%	44%	12%

Table 4.5 illustrates that 42% of the participants agreed that they had become more productive. This is supported by 45% of the participants feeling that their work quality had improved, with a further 44% indicating they completed tasks more efficiently. A study conducted by Gallié and Legros (2012) found that training leads to innovation. This confirms the result of this study where 43% of the participants indicated that they were able to provide more innovative solutions based on the e-learning programme that they had attended. The majority of the participants (greater than 40%) indicated that they can interact confidently with their peers as well as reduce waste. Being able to reduce waste is

a sign of efficiency adding further evidence that e-learning does improve productivity. These results are supported by statements made by Florea (2010) claiming that companies experience improved productivity as a result of e-learning. This study's results are also supported by Caudill and Reeves (2014) who stated that training supports employee productivity. Lastly, a study by Aydoğdu Karaaslan (2013) found that employees believed e-learning supported their productivity which is consistent with the results of this study.

4.5.6. Objective 6 – Barriers to e-learning

Barriers to e-learning include support of the manager or lack thereof as well the employees' attitudes towards the e-learning system. It is important for Vodacom to consider the barriers to e-learning so that their e-learning programmes are able to achieve the best results they can. Inglis et al. (2009) listed an unsupportive manager as a stumbling block to the implementation of e-learning. Among the other barriers to e-learning is the employee's attitude to the e-learning system, with a positive attitude resulting in better adoption of the e-learning programme (Park, 2009).

4.5.6.1. Managers' involvement in e-learning

The participants were asked to describe their manager's involvement in e-learning. Their responses are displayed in Figure 4.17

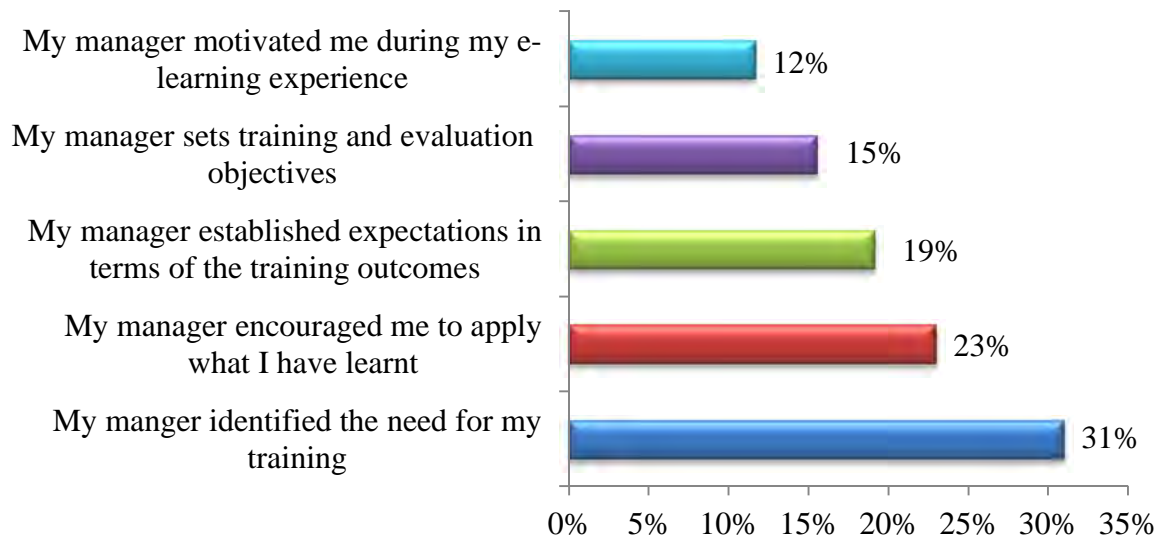


Figure 4.17: Description of the participants' manager's involvement in e-learning

From Figure 4.17 it can be noted that 31% of the participants indicated that their manager identified the need for their training, and 23% reported that their manager encouraged them to apply what they had learnt. This shows good support by the managers for e-learning. The results can be confirmed by the study conducted by Ellström and Ellström (2014), who found that manager support of training was a significant requirement for learning outcomes and for transfer of training to the work situation. Thus, this research supports the study by Ellström and Ellström (2014) since the research findings are similar.

4.5.6.2. Managers' attitude toward e-learning

The participants were asked to select options that described their manager's attitude towards e-learning (Figure 4.18)

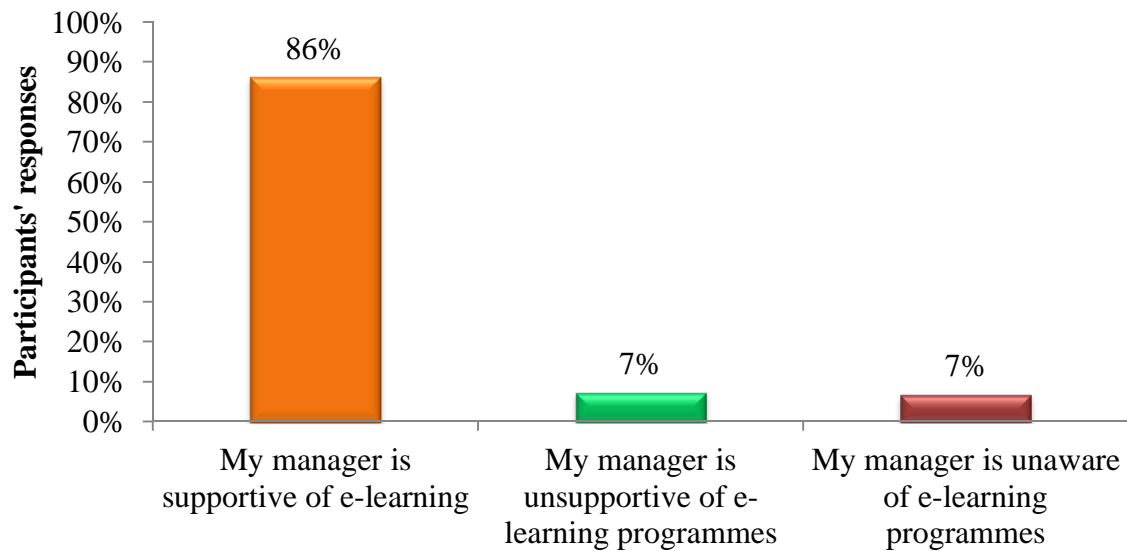


Figure 4.18: Managers' attitude towards e-learning

The results showed that the majority (86%) of the participants indicated that their manager was supportive of e-learning (Figure 4.18). This is consistent with Raymond et al. (2012) who found that manager bias towards e-learning also plays a role in the successful adoption of e-learning. Hence, the Raymond et al. (2012) study supports the results of this study.

4.5.6.3. Overall satisfaction with e-learning as a learning tool

The participants were asked about their opinion on e-learning as a learning method (Figure 4.19)

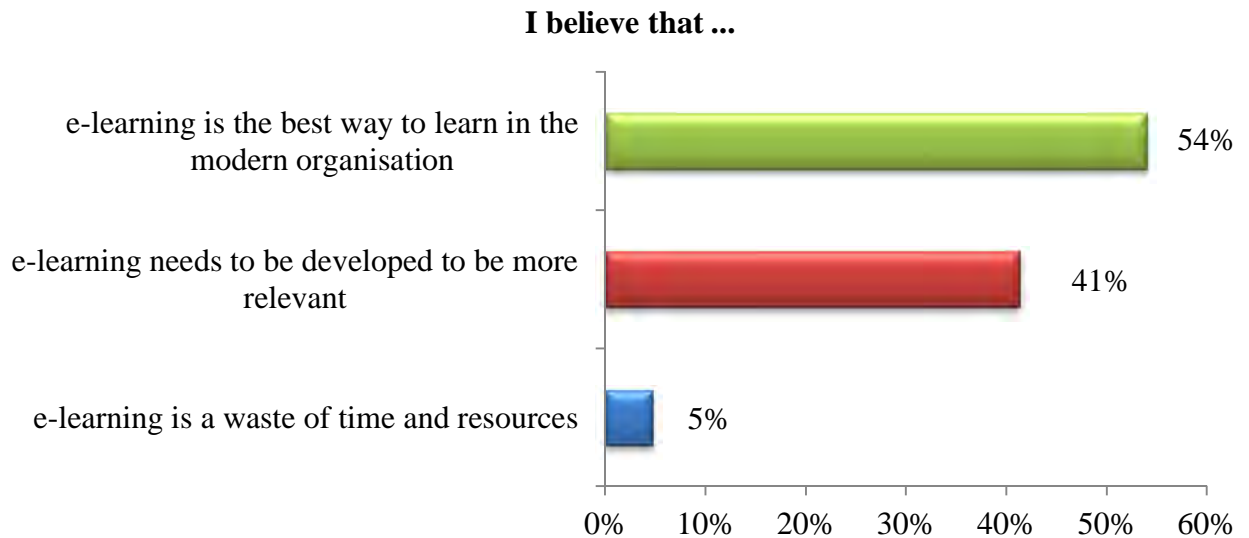


Figure 4.19: Opinion on e-learning as learning method

It is evident from Figure 4.19 that the majority of the participants (54%) believe that e-learning is the best way to learn in modern organisations like Vodacom, while 41% still feel it needs to be developed. This shows that the majority of the participants have a positive attitude towards e-learning as a learning method. This is in line with the study performed by Park (2009) which found attitude towards e-learning affecting the intention to use an e-learning system.

4.6 Further analysis

Further analysis was conducted to find significant association between socio-demographic variables and outcome variables (Do you like e-learning?). This analysis is illustrated in Table 4.6 and discussed thereafter

Table 4.6: Cross-tabulation between race and favouring e-learning

		Do you like e-learning?		Chi-squared value	p-value
		Yes	No		
Race	Black	95 (84.8%)	17 (15.2%)	8.19	0.04
	White	75 (68.8%)	34 (31.2%)		
	Coloured	52 (73.2%)	19 (26.8%)		
	Indian	52 (74.3%)	18 (25.7%)		

The results of Table 4.6 show that the race of the participants was significantly associated with favouring e-learning as more Black participants liked e-learning than other race groups ($p = 0.042$). This statistic highlights new gaps that exist in the literature and that has not been explored before; it therefore adds to further research that can be done.

Analysis was then performed to identify trends or relationships. One such relationship was found when considering participants' productivity and their retention of the training material. Table 4.7 displays the test for normality which indicates if the data set is well modelled according to normal distribution

Table 4.7: Tests of normality for productivity and retention knowledge

Tests of normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Improved productivity	0.089	362	0.000	0.979	362	0.000
Level of retention knowledge	0.184	362	0.000	0.943	362	0.000

a. Lilliefors Significance Correction

Since the overall scores for productivity and retention were not normally distributed (Table 4.7), a non-parametric test (Mann-Whitney U test) was conducted to compare the median

scores for productivity and level of retention with the other variable. Table 4.8 indicates the result of the non-parametric test.

Table 4.8: Comparison of median scores for productivity and retention with regards to liking the e-learning

Hypothesis test summary				
	Null hypothesis	Test	Sig.	Decision
1	The distribution of Improved productivity is the same across categories of 11. Do you like e-learning?	Independent Samples Mann-Whitney U Test	0.000	Reject the null hypothesis.
2	The distribution of Level of retention knowledge is the same across categories of 11. Do you like e-learning?	Independent Samples Mann-Whitney U Test	0.000	Reject the null hypothesis.

Using the Mann-Whitney U test showed that the median scores for productivity and retention were significantly higher among those who favoured e-learning compared to those who did not like e-learning ($p < 0.01$) (Table 4.8). No other variables had significantly different median scores for productivity and retention. Asymptotic significances are displayed. The significance level is 0.05. This indicates that those who retained more knowledge and those who were more productive indicated that they liked e-learning. Analysis of the relationship between retention of training and improved productivity was examined using Spearman's rho correlation analysis which assesses the strength of the association between two variables. Table 4.9 reveals the results of the test.

Table 4.9: Spearman's rho correlation analysis

			Improved productivity	Level of retention knowledge
Spearman's rho	Improved productivity	Correlation Coefficient	1.000	.650**
		Sig. (2-tailed)	.	.000
	Level of retention knowledge	Correlation Coefficient	.650**	1.000
		Sig. (2-tailed)	.000	.
**. Correlation is significant at the 0.01 level (2-tailed).				

Spearman's rho correlation analysis showed that a significantly positive correlation existed between productivity scores and retention ($r = 0.65$, $p < 0.05$) (Table 4.9). This indicates a significant positive relationship between retention of training from e-learning and productivity of the participant. This result indicates a new area of research into the relationship between productivity and retention of training material from e-learning. It does add value to e-learning as a training method.

4.7 Key Findings

This study attempted to answer the question on the effect of e-learning on the employees of Vodacom. The question was split into six objectives; with four being linked to the Kirkpatrick four levels evaluation model. Table 4.10 lists a summary of the key findings for each objective.

Table 4.10: Summary of key findings per objective

	Objectives	Findings
1	To ascertain the degree of satisfaction that employees have with the e-learning at Vodacom.	<ul style="list-style-type: none"> • Fifty six percent (56%) of the participants sufficiently enjoyed the e-learning with 53% pleased with the look and 52% pleased with the ease of navigation. • Those participants who liked e-learning indicated that it is because e-learning was relevant to their work, with 46% of those who did not like e-learning stating that the e-learning was dull and boring. • Ninety percent (90%) of the participants did not have a problem with the pace of the e-learning and those that did indicated that the teaching was not suited to their style. • Sixty five percent (65%) of the participants would recommend the training to their work colleagues.
2	To determine the level of retention of knowledge that employees have been able to achieve after e-learning programmes.	<ul style="list-style-type: none"> • The majority of the participants agreed that after the e-learning programme their skill, confidence, knowledge and understanding had all increased. • Seventy one percent (71%) agree that their knowledge of the subject matter had increased.

		<ul style="list-style-type: none"> • Fifty percent (50%) of the participants could recall most of the content but still need a refresher course.
3	To assess how effectively employees have applied what they have learnt from e-learning programmes in their current work environment.	<ul style="list-style-type: none"> • Forty percent (40%) of the participants felt they could apply most of what they had learnt. • Those participants, who indicated they could not apply the e-learning to their work, cited the training being irrelevant to their job as the main reason. • From the 37% of the participants who indicated that there was a process to evaluate how well they had applied e-learning, 38% indicated that they were recognised but not rewarded. A further 38% received no recognition or reward.
4	To establish if e-learning has increased motivation at Vodacom.	<ul style="list-style-type: none"> • Of the participants who indicated good motivational levels, 36% said it was due to e-learning increasing their knowledge. • Forty one percent (41%) of the participants who did not feel motivated felt that e-learning had not improved their career prospects.
5	To determine if e-learning programmes have improved productivity at Vodacom.	<ul style="list-style-type: none"> • Forty one percent (41%) of the participants agreed that they had become more productive as a result of e-learning. • Participants also agreed with the quality of their work improving (45%), being able to complete tasks more efficiently (43%), being able to provide innovations (43%), and interacting with their peers (46%).
6	To identify barriers to e-	<ul style="list-style-type: none"> • Thirty percent (30%) of the participants

	learning at Vodacom.	<p>responded that their manager had identified the need for their training.</p> <ul style="list-style-type: none"> • Eighty six percent (86%) indicated that their manager was supportive of e-learning. • A majority (53%) believed e-learning is the best way to learn in a modern organisation.
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As listed in Table 4.10, all the objectives that were compiled for the study have been met, thereby allowing for the research question to be appropriately answered in Chapter Five.

4.8 Summary

This chapter dealt with the analysis and interpretation of the data that was collected. The reliability of the study was confirmed with the Cronbach's alpha being 0.87. The data was presented in two sections, the first being the demographic profile of the participants, which was followed by the highlights of the findings in relation to each objective of the study.

Most of the objectives were linked to the four levels of the Kirkpatrick evaluation model. The commentary on the findings was framed by the relevant prior literature with the findings being verified, if possible, by existing studies. The chapter concluded with a summary that indicated the key findings in relation to each research objective.

Conclusions can be drawn based on the findings described in this chapter, from which recommendations can be proposed in the next chapter along with the limitations of the study and recommendations for future research.

Chapter Five

Conclusions, Limitations and Recommendations

5.1 Introduction

Development of an organisation's human capital has become the foremost strategy that organisations employ to gain and maintain a competitive advantage. Training and development has become the cornerstone of this strategy with e-learning fast becoming one of the more popular training and development methods. From the literature there appears to be some connections between e-learning and increased motivation and productivity of employees. This study has sought to determine if the e-learning programmes at the cellular service provider, Vodacom, are effective as well as to determine if e-learning programmes improve employees' motivation and productivity. The data collected from employees of Vodacom, which was linked to the objectives of this study, was intended to provide answers to the effectiveness of the e-learning programmes at Vodacom. From the analysis of the data presented in Chapter 4, this chapter highlights the key findings of each objective, followed by recommendations based on these findings. The chapter also states the limitations of the study and lastly presents recommendations for future studies.

5.2 Key findings and conclusions

The main aim of this study was to examine the that effect e-learning programmes at Vodacom had on its employees with specific regard to the motivational levels of the employees and their productivity levels, thereby allowing for conclusions to be drawn on the effectiveness of the e-learning programmes at Vodacom. The literature made reference to the Kirkpatrick four levels evaluation model to determine the effectiveness of a training programme and the study was done in line with this model. The literature further expanded on the barriers to e-learning and the motivational effect of e-learning but there was inconclusive evidence when employees' productivity levels were considered. Although the study used non-probability sampling, the results can to some degree be generalised to the entire population of Vodacom employees. The conclusions that follow are based on the empirical evidence extracted from the statistical analysis of the data that is linked to each objective.

The research questions were crafted to align with the objectives of the study. The results have shown that the e-learning programmes at Vodacom are effective (as per the

Kirkpatrick evaluation model), are free of some of the barriers that plague e-learning programmes, have positive motivational effects, and lead to greater productivity.

5.2.1. Objective 1

Objective 1 was linked to the first level of the Kirkpatrick evaluation model. The results of the objective indicated that the participants in the study were satisfied with the e-learning programmes at Vodacom. They were happy with the appearance and the ease of navigation of the e-learning. The majority of the participants indicated that they liked e-learning at Vodacom, with the main reason being the relevance to their work. This further indicates satisfaction with the e-learning programmes. The final substantiation of the satisfaction of e-learning was found when the vast majority of the participants indicated that they would recommend the training to their colleagues. Thus, from these findings it can be stated that the Vodacom's e-learning programmes have satisfied the participants; hence the e-learning programmes have passed Level 1 of the Kirkpatrick model.

5.2.2. Objective 2

This objective was linked to Level 2 of the Kirkpatrick model which measures how well the participants have retained the training material. The results of this objective indicated that the majority of the participants were able to increase their skills, knowledge, and confidence, as well as their understanding of their job. A key finding here is that more than 60% of the participants indicated that they are able to teach others what they have learnt. This is the strongest indicator that they have been able to retain what they have learnt. Another factor is their ability to recall the training, which most of the participants indicated they would be able to do but may need to have the training refreshed with them. This does not detract from the overall result that the participants can retain the training they had just completed which indicates that Vodacom's e-learning programmes have now also passed the second level of the evaluation model.

5.2.3. Objective 3

The next objective was linked to Level 3 of the Kirkpatrick model which defines how well the participants can apply what they have learnt from the training to their work. A portion of the participants (15%) indicated that they were able to apply all of what they had learnt, with the majority (42%) indicating that they could apply some of what they had learnt which possibly relates to the relevance of the training. The reasons why some of the

participants felt they could not apply the training, was the irrelevance of the training for their job; however, this was an extremely small percentage of the population (3% of the sample population). The majority of the participants indicated a lack of system to evaluate how well they can apply their training and those participants that did have an evaluation system in place were mainly just recognised for applying the training and not rewarded, or no reward and no recognition was given. This is an area that is lacking with Vodacom's e-learning programmes.

Due to the fact that the majority of the participants indicated that they can apply some of the training to their work, it was established that Vodacom's e-learning passed Level 3 of the evaluation model. There are some concerns around the lack of process to evaluate how successful the participant applies the training and how relevant the training is, but this can be rectified.

Level 4 of the Kirkpatrick model is split between Objective 4 and Objective 5 which measures motivational level and productivity level respectively

5.2.4. Objective 4

This objective considered the motivation of the participants after the e-learning programme, and the analysis thereof indicated that a majority of them experienced increased motivational levels. However, this is closely followed by people whose motivation levels did not increase. The main reason given for not having increased motivation was that e-learning had not improved their career prospects. Thus, this objective does have some supporting evidence to increased motivation after e-learning.

5.2.5. Objective 5

The results from the data analysis of this objective produced a clearer picture, as opposed to Objective 4, with the majority of the participants agreeing to the increased productivity levels after completing e-learning at Vodacom. The majority of the participants (over 40%) indicated increases in productivity, quality and efficiency of work, innovation and waste reduction. This provides sufficient evidence that Vodacom's e-learning programmes have increased productivity of the participants.

Thus it can be concluded that Vodacom's e-learning programmes have passed Level 4 of the Kirkpatrick model due to the increase in productivity of the participants as well the increase in motivation of the participants after e-learning.

5.2.6. Objective 6

The last objective is the linked the barriers of e-learning such as lack of manager's support and negative attitude of participants towards e-learning. The data shows that participants had the support of their managers. The participants' attitude towards e-learning was also positive but again the participants made reference to the relevance of the e-learning programmes at Vodacom.

The summary of results above and the findings of the study indicate that the objectives of the study were achieved. The results show conclusively that Vodacom's e-learning programmes are effective, based on the passing of all four levels of the Kirkpatrick evaluation model. The results also indicate that the effect of e-learning on the employees of Vodacom is an increase in motivation and an increase in their productivity level. The results of this study can be used to further enhance the e-learning programmes at Vodacom.

5.3 Recommendations

From the research finding it can be seen that Vodacom does indeed have effective e-learning programmes. However, there are still areas that need improvement as well as new advancements in the field of training and development that can be used in conjunction with e-learning to further enhance the e-learning programmes that Vodacom has. Therefore, the proposed recommendations are based on the results of the study and relevant literature, as well as the inclusion of literature on enhancements in training and development and e-learning that may be beneficial to Vodacom.

5.3.1. Relevance of e-learning to actual work

It is evident from the results of the data analysis a need exists for Vodacom to make their e-learning programmes more relevant to the employees' actual work. The majority of the employees felt that e-learning was the best way to learn but they preferred relevance to their current work. A recommendation would be the use of key performance indicators (KPIs) to create alignment between e-learning and job competences. KPIs are aligned to

the company's mission and vision and can also include department level performance indicators. Therefore KPIs should be used as they will align the learning needs of the employee with the strategy of the company and department. If the e-learning programmes at Vodacom are set in conjunction with KPIs then the e-learning programmes will be perfectly aligned to the necessary work competences of the employees. The employees will also benefit knowing that the skills they acquire through the training will be linked to the strategy of the company.

5.3.2. Blended learning

Another problem identified from the data analysis was the teaching style of e-learning programmes, where the participants were not comfortable with the pace of the e-learning course because the programme was not suited to their style of learning. The use of blended learning could provide the solution. Blended learning is an instructional system that makes use of multiple learning delivery techniques, with the most common form being face-to-face classroom with online learning. If the employees are not comfortable with e-learning then using blended learning will provide the best alternative since it can use traditional learning techniques and can be incorporated into e-learning programmes.

5.3.3. Introduce an evaluation system of application of e-learning

The participants in the study indicated that there were processes/systems in place to evaluate how well they had applied their e-learning training to their job, but they received either no recognition or no reward and recognition. If there is no reward or recognition some employees may not want to apply their training. Another potential problem is that some employees indicated having received a reward for applying e-learning, which potentially could have negative implications for Vodacom as this may be seen as unfair practices. The recommendation for the rewards could be in the form of some financial benefit or benefits like free data bundles for a month or allowing the employees to call family members at a discounted rate for a limited period. However, these rewards must not lead to a higher overall cost resulting in the ROI of the training being lower. Recognition could be achieved through messages on the Vodacom intranet site indicating which employee have been able to apply their training or it could be done as part of department meetings with the employees being recognised in front of their whole department.

5.3.4. Gamification

Gamification is the use of game design elements, as well as mechanics employed in games, in a non-game context to increase the engagement of users. Gamification introduces game elements that could be used to make the learning fun and interactive, thereby motivating the employees to actively take part in the e-learning programmes. This can be used to quell the complaints by some participants that the e-learning programmes were dull and boring, by introducing game elements to the e-learning programmes, like a leader board or feedback based on their progress with the e-learning course. The recommendation is to use gamification elements in the e-learning programmes at Vodacom to engage more with the employees and motivate them to actively take part in e-learning courses.

5.3.5. Social media for learning

Another information technology trend is social media which has grown in leaps and bounds. Blaschke and Brindley (2015) stated that social media has proven to fit well with education practices that require engagement, active learning and, importantly, collaboration in solving problems. They listed some of the benefits of social media as being learner centred where students can connect with each other and have a shared space to collaborate. Therefore, the use of social media can encourage those employees who have a negative opinion of e-learning to try this form of learning. Social media provides a new avenue for e-learning where learners can collaborate on projects, make connections with other learners and share information (Blaschke & Brindley, 2015). For Vodacom's e-learning programmes the use of social media will enhance the appeal of e-learning but will also allow for new methods of learning to be used, like collaboration.

5.4 The limitations of the study

The limitations of a research project should not be viewed in a negative light as they provide the guidelines for future research to be done. The limitations of this study are:

- The study did not include any research into the fifth level, which was introduced to the Kirkpatrick model by J Phillips (Phillips et al., 2012). This fifth level is the ROI of the training. Including the research into the ROI of e-learning will add more value to the discussions around the effectiveness of this form of learning at Vodacom.
- There was no specific e-learning programme that was targeted for this research but a general view of all e-learning at Vodacom. If specific e-learning programmes

were targeted, then recommendations for improvements can be constrained to improve those e-learning programmes.

- The sampling frame that was used was the Vodacom Global address book to enlist participants for the research. A more accurate method would be to have a database of all employees who had recently experienced e-learning training and thereby have data from individuals with the most recent view of e-learning.
- Owing to the limited time frame for the study and the large sample size, convenience sampling was used, which has low generalisability (according to (Sekaran & Bougie, 2013, p.252)).
- Some participants could not access the survey from the QuestionPro website due to the website being blocked for some departments. Had this technical difficulty been discovered earlier, a request would have been sent to the IT department of Vodacom to unblock the website.
- Lastly, due to the researcher being a contractor for Vodacom and not a full time employee, there was some resistance by some participants to take part in the study.

5.5 Recommendations for future studies

The limitations and findings of the study are used as guidelines for future studies. The following recommendations for future studies on e-learning at Vodacom are:

- ❖ Other evaluation models could be used to determine the effectiveness of the e-learning programmes, like Stufflebeam's Context Input Process Product model (CIPP) (Olson et al., 2011).
- ❖ The study should be repeated to include Level 5 of the evaluation model which is the ROI of the e-learning. This will provide valuable financial data to support the research.
- ❖ Future studies should try to use a probability sampling technique to ensure greater generalisability of the results to the entire population.
- ❖ The research should be extended to all Vodacom employees including contractors who regularly take part in e-learning programmes as required by Vodacom.
- ❖ The study can be extended to include all cellular operators in South Africa, thus providing a holistic view of e-learning across the entire cellular industry. Along the same lines, this research can be conducted at other institutions/organisations that

actively use e-learning as a training method, thus creating a comprehensive view of e-learning in corporate South Africa.

- ❖ From the data analysis of Chapter Four the relationship between e-learning and the race of the participant could be explored in future studies.
- ❖ The data analysis also made reference to a relationship between productivity and the retention of training material from e-learning, which can be the basis of a new study on e-learning.

5.6 Conclusion

The study has achieved the aims and objectives that were set forth. The effectiveness of the e-learning programmes at Vodacom has been confirmed as well as the effect of increases to the motivation and productivity of the employees. However, there are areas in which the e-learning programmes can improve, and exciting new technological theories can be included which will further enhance the e-learning at Vodacom.

REFERENCES

- Abdulai, R. T. & Owusu-Ansah, A. 2014. *Essential Ingredients of a Good Research Proposal for Undergraduate and Postgraduate Students in the Social Sciences*.
- Agarwal, N., Pande, N. & Ahuja, V. 2014. Expanding the Kirkpatrick Evaluation Model- Towards more Efficient Training in the IT Sector. *International Journal of Human Capital and Information Technology Professionals (IJHCITP)*, 5, 4, 19-34.
- Aguinis, H. & Kraiger, K. 2009. Benefits of training and development for individuals and teams, organizations, and society. *Annual review of psychology*, 60, 1, 451-474.
- Aluko, F. & Shonubi, O. 2014. Going beyond Kirkpatrick's Training Evaluation Model: The role of workplace factors in distance learning transfer. *Africa Education Review*, 11, 4, 638-657.
- Amirkhanpour, M., Ruediger Kaufmann, H. & Garcia-Gallego, A. 2014. An extensive study of the e-learning practices within Cyprus universities. *International Journal of Organizational Analysis*, 22, 3, 317-341.
- Anderson, G., Whitefield, T., Csete, J. & Evans, J. 2013. Strategies for impact: enabling e-learning project initiatives. *Campus-Wide Information Systems*, 30, 3, 165-173.
- Armatas, C., Spratt, C. & Vincent, A. 2014. Putting Connectivist Principles Into Practice: A Case Study of an Online Tertiary Course. *American Journal of Distance Education*, 28, 2, 81-91.
- Aydoğdu Karaaslan, İ. I. H. C. 2013. The Effect Of Banking Personnel's Access To E-Learning Opportunities On Their Professional Achievement. *Turkish Online Journal of Educational Technology*, 12, 2, 269-280.
- Bae, S.-O. & Patterson, L. 2013. The Effect Of Corporate Investment In Human Capital On Employee's Performance: Major Korean Financial Corporation Examined. *Academy of Strategic Management Journal*, 12, 2, 55-76.
- Barkhuizen, N. & Bennett, M. 2014. Training Adult Entrepreneurs in an Emerging Economy: The Case of Namibia. *Mediterranean Journal of Social Sciences*, 5, 3, 298.
- Batalla-Busquets, J.-M. & Pacheco-Bernal, C. 2013. On-the-job e-learning: Workers' attitudes and perceptions. *The International Review of Research in Open and Distributed Learning*, 14, 1, 40-64.
- Baylari, A. & Montazer, G. A. 2009. Design a personalized e-learning system based on item response theory and artificial neural network approach. *Expert Systems with Applications*, 36, 4, 8013-8021.
- Bevan, D., Kipka, C., Macgregor, S. P. & Semler, K. 2012. Towards whole person learning through sustainable executive performance. *Journal of Management Development*, 31, 3, 231-242.
- Bhaumik, S. K., Driffield, N. & Zhou, Y. 2015. Country specific advantage, firm specific advantage and multinationality – Sources of competitive advantage in emerging markets: Evidence from the electronics industry in China. *International Business Review (2015)*, <http://dx.doi.org/10.1016/j.ibusrev.2014.12.006>
- Blaschke, L. M. & Brindley, J. 2015. Using Social Media in the Online Classroom. In: Ally, M. & Khan, B. H. (eds.) *International Handbook of E-Learning Volume 2: Implementation and Case Studies*. Routledge.
- Bloomfield, J., Roberts, J. & While, A. 2010. The effect of computer-assisted learning versus conventional teaching methods on the acquisition and retention of handwashing theory and skills in pre-qualification nursing students: a randomised controlled trial. *International Journal of nursing studies*, 47, 3, 287-294.

- Boonchutima, S. & Pinyopornpanich, B. 2013. Evaluation Of Public Health Communication Performance By Stufflebeam's CIPP Model: A Case Study Of Thailand's Department Of Disease Control. *Journal of Business & Behavioral Sciences*, 25, 1, 36-53.
- Borup, J., West, R. E. & Graham, C. R. 2012. Improving online social presence through asynchronous video. *The Internet and Higher Education*, 15, 3, 195-203.
- Brantes Ferreira, J., Zanela Klein, A., Freitas, A. & Schlemmer, E. 2013. Mobile Learning: Definition, Uses and Challenges. *Increasing Student Engagement and Retention Using Mobile Applications: Smartphones, Skype and Texting Technologies*. Emerald Group Publishing Limited.
- Bri, D., Garcia, M., Coll, H. & Lloret, J. 2009. A study of virtual learning environments. *WSEAS Transactions on Advances in Engineering Education*, 6, 1, 33-43.
- Buganza, T., Kalchschmidt, M., Bartezzaghi, E. & Amabile, D. 2013. Measuring the impact of a major project management educational program: The PMP case in Finmeccanica. *International Journal of Project Management*, 31, 2, 285-298.
- Buller, P. F. & Mcevoy, G. M. 2012. Strategy, human resource management and performance: Sharpening line of sight. *Human Resource Management Review*, 22, 1, 43-56.
- Camilleri, V., De Freitas, S., Montebello, M. & Mcdonagh-Smith, P. A case study inside virtual worlds: use of analytics for immersive spaces. Proceedings of the Third International Conference on Learning Analytics and Knowledge, 2013. ACM, 230-234.
- Campbell, B. A., Coff, R. & Kryscynski, D. 2012. Rethinking Sustained Competitive Advantage from Human Capital. *Academy of Management Review*, 37, 3, 376-395.
- Capece, G. & Campisi, D. 2013. User satisfaction affecting the acceptance of an e-learning platform as a mean for the development of the human capital. *Behaviour & Information Technology*, 32, 4, 335-343.
- Carter, L. M. L. N. C., Salyers, V. V. M. C., Myers, S. M. S. S. C., Hipfner, C. H. S. S. C., Hoffart, C. H. S. S. C., Maclean, C. C. M. S. S. C., White, K. W. S. S. C., Matus, T. T. M. C., Forssman, V. V. F. R. C. & Barrett, P. O. B. C. 2014. Qualitative Insights from a Canadian Multi-institutional Research Study: In Search of Meaningful E-learning. *Canadian Journal for the Scholarship of Teaching & Learning*, 5, 1, 1-17.
- Castellanos, R. M. M. & Martín, M. Y. S. 2011. Training as a source of competitive advantage: performance impact and the role of firm strategy, the Spanish case. *International Journal of Human Resource Management*, 22, 3, 574-594.
- Caudill, J. G. & Reeves, B. 2014. Strategic Management of Workplace E-Learning. *Remote Workforce Training: Effective Technologies and Strategies: Effective Technologies and Strategies*, 17.
- Charrondiere, U. R., Rittenschober, D., Nowak, V., Nicodemi, C., Bruggeling, P. & Petracchi, C. 2014. FAO/INFOODS e-Learning Course on Food Composition Data. *Food Chemistry*, 193, 6-11.
- Chaudhry, W. 2014. Teaching English through lecture: a faculty strategy for language classes. *International Journal of Humanities and Social Sciences Research (IJHSSR)*, 1, 1, 1-10.
- Chen, H.-C., Hsu, C.-C., Chang, L.-Y., Lin, Y.-C., Chang, K.-E. & Sung, Y.-T. 2013. Using a radical-derived character e-learning platform to increase learner knowledge of Chinese characters. *Language Learning & Technology*, 17, 1, 89-106.
- Chen, H.-J. 2010. Linking employees' e-learning system use to their overall job outcomes: An empirical study based on the IS success model. *Computers & Education*, 55, 4, 1628-1639.

- Chen, H.-J. & Kao, C.-H. 2012. Empirical validation of the importance of employees' learning motivation for workplace e-learning in Taiwanese organisations. *Australasian Journal of Educational Technology*, 28, 4, 580-598.
- Chen, H. 2015. The Correlations between Learner Autonomy and the Affective Factors in College English Learning in China. *International Review of Social Sciences and Humanities*, 8, 2, 70-84.
- Cheng-Hua, T., Shyh-Jer, C. & Shih-Chien, F. 2009. Employment modes, high-performance work practices, and organizational performance in the hospitality industry. *Cornell Hospitality Quarterly*, 50, 4, 413-431.
- Cheng, B., Wang, M., Moormann, J., Olaniran, B. A. & Chen, N.-S. 2012. The effects of organizational learning environment factors on e-learning acceptance. *Computers & Education*, 58, 3, 885-899.
- Cheng, B., Wang, M., Yang, S. J. H., Kinshuk & Peng, J. 2011. Acceptance of competency-based workplace e-learning systems: Effects of individual and peer learning support. *Computers & Education*, 57, 1, 1317-1333.
- Chien, T. C. 2012. Computer self-efficacy and factors influencing e-learning effectiveness. *European Journal of Training and Development*, 36, 7, 670-686.
- Clutterbuck, D. 2013. Time to focus coaching on the team. *Industrial and Commercial Training*, 45, 1, 18-22.
- Coff, R. & Kryscynski, D. 2011. Drilling for micro-foundations of human capital-based competitive advantages. *Journal of Management*, 0149206310397772.
- Colombo, E. & Stanca, L. 2014. The impact of training on productivity: evidence from a panel of Italian firms. *International Journal of Manpower*, 35, 8, 1140-1158.
- Cooper, D. R. & Schindler, P. S. 2014. *Business research methods*.
- Curado, C. & Martins Teixeira, S. 2014. Training evaluation levels and ROI: the case of a small logistics company. *European Journal of Training and Development*, 38, 9, 845-870.
- David, O., Salleh, M. & Iahad, N. 2012. The Impact of E-Learning in Workplace: Focus on Organizations and Healthcare Environments. *Int. Arab J. e-Technol.*, 2, 4, 203-209.
- Del Valle, I. D. & Castillo, M. A. S. 2009. Human capital and sustainable competitive advantage: an analysis of the relationship between training and performance. *International Entrepreneurship and Management Journal*, 5, 2, 139-163.
- Dhar, R. L. 2015. Service quality and the training of employees: The mediating role of organizational commitment. *Tourism Management*, 46, 3, 419-430.
- Edgardo, B., Carmen, P. & Fabrizio, M. 2010. European Labour Productivity And Corporate E-Learning Activities: An Empirical Analysis. *Annals of the University of Oradea, Economic Science Series*, 19, 1, 170-177.
- Ellinger, A. D., Hamlin, R. G., Beattie, R. S., Wang, Y.-L. & Mcvicar, O. 2011. Managerial coaching as a workplace learning strategy. *Supporting Workplace Learning*. Springer.
- Ellis, P. F. & Kuznia, K. D. 2014. Corporate ELearning Impact On Employees. *Global Journal of Business Research*, 8, 4, 1-15.
- Ellis, R. A., Ginns, P. & Piggott, L. 2009. E-learning in higher education: some key aspects and their relationship to approaches to study. *Higher Education Research & Development*, 28, 3, 303-318.
- Ellström, E. & Ellström, P.-E. 2014. Learning outcomes of a work-based training programme. *European Journal of Training and Development*, 38, 3, 180-197.
- Emil Berg, M. & Terje Karlsen, J. 2012. An evaluation of management training and coaching. *Journal of Workplace Learning*, 24, 3, 177-199.

- Ensher, E. A. 2013. E-mentoring as a Critical E-learning Approach: The Impact of Social Presence on E-mentoring. *Communications and Network*, 5, 3, 1.
- Falola, H. O., Osibanjo, A. O. & Ojo, S. I. 2014. Effectiveness Of Training And Development On Employees' Performance And Organisation Competitiveness In The Nigerian Banking Industry. *Bulletin of the Transilvania University of Brasov. Series V: Economic Sciences*, 7, 1, 161-170.
- Farrell, P. 2011. *Writing a built environment dissertation: Practical guidance and examples*, John Wiley & Sons.
- Feng, J. Y., Chang, Y. T., Chang, H. Y., Erdley, W. S., Lin, C. H. & Chang, Y. J. 2013. Systematic Review of Effectiveness of Situated E-Learning on Medical and Nursing Education. *Worldviews on Evidence-Based Nursing*, 10, 3, 174-183.
- Florea, N. V. 2010. New Forms of Human Resources Development: e-Learning in Education. *Noi forme de dezvoltare a resurselor umane: e-learning-ul în educație.*, 62, 1A, 249-257.
- Gallié, E.-P. & Legros, D. 2012. Firms' human capital, R&D and innovation: a study on French firms. *Empirical Economics*, 43, 2, 581-596.
- Garcia, A. M. F. & Esteban, A. P. 2011. Adapting SCORM To M-Learning Context. *eLearning & Software for Education*, 1-5.
- Giangreco, A., Carugati, A. & Sebastiano, A. 2010. Are we doing the right thing? Food for thought on training evaluation and its context. *Personnel review*, 39, 2, 162-177.
- González, X., Miles-Touya, D. & Pazó, C. 2012. R&D, Worker Training, and Innovation: Firm-level evidence. *University of Vigo, Working Paper of the Department of Applied Economics*.
- Gradel, K. & Edson, A. J. 2011. Integrating Cloud-Based Strategies and Tools in Face-to-Face Training Sessions to Increase the Impact of Professional Development. *Journal of Educational Technology Systems*, 40, 2, 113-130.
- Granger, B. P. & Levine, E. L. 2010. The perplexing role of learner control in e-learning: will learning and transfer benefit or suffer? *International Journal of Training and Development*, 14, 3, 180-197.
- Griffin, R. 2011. Seeing the wood for the trees: workplace learning evaluation. *Journal of European Industrial Training*, 35, 8, 841-850.
- Grobler, P. A. 2011. *Human resource management in South Africa*, Australia, Cengage Learning.
- Gujarathi, R. & Wankhede, M. M. 2012. Evaluation of training: Need to focus. *Journal Of Business Management & Social Sciences Research*, 1, 2, 1-15.
- H. Davenport, T. 2014. How strategists use “big data” to support internal business decisions, discovery and production. *Strategy & Leadership*, 42, 4, 45-50.
- Hadley, J., Kulier, R., Zamora, J., Coppus, S. F., Weinbrenner, S., Meyerrose, B., Decsi, T., Horvath, A. R., Nagy, E. & Empananza, J. I. 2010. Effectiveness of an e-learning course in evidence-based medicine for foundation (internship) training. *Journal of the Royal Society of Medicine*, 103, 7, 288-294.
- Hall, M. 2012. The challenge of innovation. *Training Journal*, 59-62.
- Hansen, J. M. & Levin, M. A. 2010. Retail e-learning assessment: motivation, location, and prior experience. *International Journal of Retail & Distribution Management*, 38, 10, 789-805.
- Hodgson, S., Al Shehhi, M. & Al-Marzouqi, E. 2014. The Effect of Job Rotation on employees in organizations in the UAE. *Middle East Journal of Business*, 9, 3, 35-44.

- Ibmcorporation. 2011. *A Commitment to Employee Education* [Online]. IBM Corporation. Available: <http://www-03.ibm.com/ibm/history/ibm100/us/en/icons/employeeedu/> [Accessed 27 February 2014].
- Ibmcorporation 2014. The Value of Training. *IBM Training building skills for a smarter planet*. IBM.
- Impactinstructiongroup 2014. 2014 Learning and Development Technology Report - 2014 Learning & Development Technology Trends are Changing the Way We Learn. In: Group, I. I. (ed.) *Learning & Development Technology Report*. Impact Instruction Group.
- Inglis, A., Mansvelt, J., Suddaby, G., O'hara, D. & Gilbert, A. 2009. Professional development: assuring quality in e-learning policy and practice. *Quality Assurance in Education*, 17, 3, 233-249.
- Jacob, S. & Issac, B. 2014. The mobile devices and its mobile learning usage analysis. *arXiv preprint arXiv:1410.4375*.
- Jethro, O. O., Grace, A. M. & Thomas, A. K. 2012. E-Learning and its effects on teaching and learning in a global age. *International Journal of Academic Research in Business and Social Sciences*, 2, 1, 203-210.
- Ji, L., Huang, J., Liu, Z., Zhu, H. & Cai, Z. 2012. The effects of employee training on the relationship between environmental attitude and firms' performance in sustainable development. *International Journal of Human Resource Management*, 23, 14, 2995-3008.
- Julia, B. & Susanne, D. 2012. Intellectual capital risks and job rotation. *Journal of Intellectual Capital*, 13, 2, 178-195.
- Kalkavan, S. & Katrinli, A. 2014. The Effects of Managerial Coaching Behaviors on the Employees' Perception of Job Satisfaction, Organisational Commitment, and Job Performance: Case Study on Insurance Industry in Turkey. *Procedia - Social and Behavioral Sciences*, 150, 1137-1147.
- Kamukama, N., Ahiauzu, A. & Ntayi, J. M. 2011. Competitive advantage: mediator of intellectual capital and performance. *Journal of Intellectual Capital*, 12, 1, 152-164.
- Karadimas, N. & Papastamatiou, N. 2007. Software Agents Integrating Job Rotation with e-Learning. *International Journal of Soft-Computing Applications*, 17-26.
- Katolnik, S. & Hakenes, H. 2014. On the Incentive Effect of Job Rotation.
- Keita, N. & Gennari, P. 2014. Building a master sampling frame by linking the population and housing census with the agricultural census. *Statistical Journal of the IAOS*, 30, 1, 21-27.
- Kennedy, P. E., Chyung, S. Y., Winiecki, D. J. & Brinkerhoff, R. O. 2014. Training professionals' usage and understanding of Kirkpatrick's Level 3 and Level 4 evaluations. *International Journal of Training and Development*, 18, 1, 1-21.
- Khattak, A. N., Rehman, S. & Rehman, C. A. 2014. Organizational Success through Corporate Trainings: A Case Study of Hotel Industry of Pakistan. *Journal of Business Studies Quarterly*, 6, 1, 167-183.
- King, E. & Nesbit, P. 2015. Collusion with denial: leadership development and its evaluation. *Journal of Management Development*, 34, 2, 134-152.
- Kirkpatrick, J. 2009. The Kirkpatrick Four Levels: A fresh look after 50 years. Retrieved May.
- Kochan, F. 2013. Analyzing the relationships between culture and mentoring. *Mentoring & Tutoring: Partnership in Learning*, 21, 4, 412-430.
- Kothari, C. R. 2011. *Research methodology: methods and techniques*, New Age International.

- Lahti, M., Hätönen, H. & Välimäki, M. 2014. Impact of e-learning on nurses' and student nurses knowledge, skills, and satisfaction: A systematic review and meta-analysis. *International Journal of Nursing Studies*, 51, 1, 136-149.
- Lancaster, S. & Di Milia, L. 2014. Organisational support for employee learning. *European Journal of Training and Development*, 38, 7, 642-657.
- Lee, H. & Bonk, C. J. 2014. Collaborative Learning in the Workplace: Practical Issues and Concerns. *International Journal of Advanced Corporate Learning (iJAC)*, 7, 2, 10-17.
- Lee, M.-C. 2010. Explaining and predicting users' continuance intention toward e-learning: An extension of the expectation–confirmation model. *Computers & Education*, 54, 2, 506-516.
- Lee, S. W.-Y. & Tsai, C.-C. 2011. Students' perceptions of collaboration, self-regulated learning, and information seeking in the context of Internet-based learning and traditional learning. *Computers in Human Behavior*, 27, 2, 905-914.
- Lehmberg, D. 2014. From advantage to handicap: Traditional Japanese HRM and the case for change. *Organizational Dynamics*, 43, 2, 146-153.
- Li, F. W., Lau, R. W. & Dharmendran, P. 2009. A three-tier profiling framework for adaptive e-learning. *Advances in Web Based Learning–ICWL 2009*. Springer.
- Liang, H.-M., Kao, R.-H., Tu, C.-C., Chin, C.-C. & Chung, W.-C. 2014. The Influence of Education and Training on Work Attitudes and the Moderating Effect of Supervisor Attitudes: Examining Chinese Employees. *Social Indicators Research*, 119, 2, 853-875.
- Lim, H., Lee, S.-G. & Nam, K. 2007. Validating E-learning factors affecting training effectiveness. *International Journal of Information Management*, 27, 1, 22-35.
- Little, B. 2012. Effective and efficient mobile learning: issues and tips for developers. *Industrial and Commercial Training*, 44, 7, 402-407.
- Liu, S.-H., Liao, H.-L. & Pratt, J. A. 2009. Impact of media richness and flow on e-learning technology acceptance. *Computers & Education*, 52, 3, 599-607.
- Llorens, J. J. 2011. A Model of Public Sector ERecruitment Adoption in a Time of Hyper Technological Change. *Review of Public Personnel Administration*, 31, 4, 410-423.
- Luor, T., Hu, C. & Lu, H.-P. 2009. 'Mind the gap': An empirical study of the gap between intention and actual usage of corporate e-learning programmes in the financial industry. *British Journal of Educational Technology*, 40, 4, 713-732.
- Mamaqi, X. 2015. The efficiency of different ways of informal learning on firm performance: A comparison between, classroom, web 2 and workplace training. *Computers in Human Behavior*, 51, 812-820.
- Mamaqi, X. & Miguel, J. 2014. Human Capital and Business Performance: An Empirical Approach Using Structural Equation Modeling. *International Journal of Knowledge Society Research (IJKSR)*, 5, 2, 20-32.
- Manyika, J., Chui, M., Brown, B., Bughin, J., Dobbs, R., Roxburgh, C., Byers, A. H. & Institute, M. G. 2011. Big data: The next frontier for innovation, competition, and productivity.
- Martin, B. O., Kolomitro, K. & Lam, T. C. 2014. Training Methods A Review and Analysis. *Human Resource Development Review*, 13, 1, 11-35.
- Mccomb, C. 2012. Developing coaching culture: are your coaching relationships healthy? *Industrial and Commercial Training*, 44, 4, 232-235.
- Mellet, S. & O'brien, E. 2014. Irish SMEs and e-learning implementation: The strategic innovative approach. *British Journal of Educational Technology*, 45, 6, 1001-1013.
- Milhem, W., Abushamsieh, K. & Pérez Aróstegui, M. N. 2014. Training Strategies, Theories and Types. *Journal of Accounting, Business & Management*, 21, 1, 12-26.

- Miller, L. 2013. ASTD's 2013 STATE OF THE INDUSTRY REPORT: workplace learning. *T+D*, 67, 11, 40.
- Mohammadyari, S. & Singh, H. 2015. Understanding the effect of e-learning on individual performance: The role of digital literacy. *Computers & Education*, 82, 1, 11-25.
- Monique, T. & Henri, W. 2014. Organizational Measures as Key to Success in e-Learning on Coporate Intranet: The Case of a Company in Cameroon. *International Journal of Marketing Studies*, 6, 6, 118.
- Muhammad Ikhlas, K. 2012. The Impact of Training and Motivation on Performance of Employees. *IBA Business Review*, 7, 2, 84-95.
- Muthuchamy, I. & Thiyagu, K. 2011. *Technology and Teaching: Learning Skills*, Gyan Publishing House.
- Mzekandaba, S. 2014. *Vodacom notches up nearly 60 million African subscribers* [Online]. ItWebAfrica. Available: <http://www.itwebafrica.com/telecommunications/335-africa/233265-vodacom-notches-up-nearly-60-million-african-subscribers> [Accessed 15 March 2015].
- Nijman, D.-J. & Gelissen, J. 2011. Direct and indirect effects of supervisor support on transfer of training. *Supporting workplace learning*. Springer.
- O'brien, E. & Hamburg, I. 2014. Mentoring for Work Based Learning: The Role of Technology. *Online Tutor*, 2, 249-263.
- Olson, C. A., Shershneva, M. B. & Brownstein, M. H. 2011. Peering inside the clock: Using success case method to determine how and why practice-based educational interventions succeed. *Journal of Continuing Education in the Health Professions*, 31, S50-S59.
- Ossiannilsson, E. & Landgren, L. 2012. Quality in e-learning—a conceptual framework based on experiences from three international benchmarking projects. *Journal of Computer assisted learning*, 28, 1, 42-51.
- Ozturan, M. & Kutlu, B. 2010. Employee satisfaction of corporate e-training programs. *Procedia-Social and Behavioral Sciences*, 2, 2, 5561-5565.
- Pandey, S. & Sindhvani, M. S. 2015. In the World of Learning. *IOSR Journal of Business and Management (IOSR-JBM)*, 5.
- Park, S. Y. 2009. An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioral Intention to Use e-Learning. *Educational technology & society*, 12, 3, 150-162.
- Passmore, J. & Velez, M. 2012. SOAP-M: a training evaluation model for HR. *Industrial and Commercial Training*, 44, 6, 315-325.
- Patel, S. & Bhadka, H. 2013. Automatic Discovery and Presentation of highly Personalized E-learning Resources: A Survey. *International Journal of Advanced Technology & Engineering Research (IJATER)*, 3, 25-29.
- Paterson, A., Pillay, P., Reddy, V., Juan, A. & Twalo, T. 2014. Improving the fit: making the Skills Development Levies Act work better in South African national government departments. *Journal of Public Administration*, 49, 2, 442-459.
- Paul, P. K & Lata Dangwal, K. 2014. Cloud Based Educational Systems And Its Challenges And Opportunities And Issues. *Turkish Online Journal of Distance Education (TOJDE)*, 15, 1, 89-98.
- Phillips, J. J., Stone, R. & Phillips, P. 2012. *The human resources scorecard*, Routledge.
- Poulsen, K. M. 2013. Mentoring programmes: learning opportunities for mentees, for mentors, for organisations and for society. *Industrial and Commercial Training*, 45, 5, 255-263.
- Ramalho, J. 2014. Mentoring in the workplace. *Industrial and Commercial Training*, 46, 4, 177-181.

- Rao, P. 2011. E-learning in India: the role of national culture and strategic implications. *Multicultural Education & Technology Journal*, 5, 2, 129-150.
- Ratten, V. 2012a. Does the sky have to be the limit? Utilizing cloud-based learning in the workplace. *Development and Learning in Organizations: An International Journal*, 26, 5, 21-23.
- Ratten, V. 2012b. Implementing cloud learning in an organization: a training perspective. *Industrial and Commercial Training*, 44, 6, 334-336.
- Raymond, L., Uwizeyemungu, S., Bergeron, F. & Gauvin, S. 2012. A framework for research on e-learning assimilation in SMEs: a strategic perspective. *European Journal of Training and Development*, 36, 6, 592-613.
- Reyes, J. 2015. The skinny on big data in education: Learning analytics simplified. *TechTrends: Linking Research & Practice to Improve Learning*, 59, 2, 75-80.
- Robbins, S. P. 2009. *Organisational behaviour : global and Southern African perspectives*, Cape Town, Pearson Education South Africa.
- Rowland, K. N. 2012. E-Mentoring: An Innovative Twist to Traditional Mentoring. *Journal of Technology Management & Innovation*, 7, 1, 228-237.
- Saks, A. M. & Burke, L. A. 2012. An investigation into the relationship between training evaluation and the transfer of training. *International Journal of Training and Development*, 16, 118-127.
- Salas, E., Tannenbaum, S. I., Kraiger, K. & Smith-Jentsch, K. A. 2012. The science of training and development in organizations: What matters in practice. *Psychological science in the public interest*, 13, 2, 74-101.
- Salter, S, Karia, A, Sanfilippo, F, & Clifford, R 2014, 'Effectiveness of E-learning in Pharmacy Education', *American Journal Of Pharmaceutical Education*, 78, 4, 1-12.
- Sam Joseph, C., Jennifer, C., Mark, J. G. H. & Victoria, E. B. 2015. Developing the Model for Optimal Learning and Transfer (MOLT) following an evaluation of outdoor groupwork skills programmes. *European Journal of Training and Development*, 39, 2, 104-121.
- Sangrà, A., Vlachopoulos, D. & Cabrera, N. 2012. Building an Inclusive Definition of E-Learning: An Approach to the Conceptual Framework. *International Review of Research in Open & Distance Learning*, 13, 2, 145-159.
- Saravani, S, & Abbasi, B 2013, 'INVESTIGATING THE INFLUENCE OF JOB ROTATION ON PERFORMANCE BY CONSIDERING SKILL VARIATION AND JOB SATISFACTION OF BANK EMPLOYEES', *Tehnicky Vjesnik / Technical Gazette*, 20, 3, 473-478
- Sarmiento, M. 2010. e-Learning as a tool to improve quality and productivity in hotels. *Worldwide Hospitality and Tourism Themes*, 2, 4, 398-409.
- Sarri, K. K., Bakouros, I. L. & Petridou, E. 2010. Entrepreneur training for creativity and innovation. *Journal of European Industrial Training*, 34, 3, 270-288.
- Saunders, M., Lewis, P. & Thornhill, A. 2009. *Research methods for business students*, Harlow, Financial Times Prentice Hall.
- Sawang, S., Newton, C. & Jamieson, K. 2013. Increasing learners' satisfaction/intention to adopt more e-learning. *Education + Training*, 55, 1, 83-105.
- Sekaran, U. & Bougie, R. 2013. *Research methods for business : a skill-building approach*, Chichester, West Sussex, Wiley.
- Shaffer, L. S. & Zalewski, J. M. 2011. A human capital approach to career advising. *NACADA Journal*, 31, 1, 75-87.
- Sharma, K. 2011. Financial implications of implementing an e-learning project. *Journal of European Industrial Training*, 35, 7, 658-686.

- Sheehan, M. 2014. Investment in training and development in times of uncertainty. *Advances in Developing Human Resources*, 16, 1, 13-33.
- Sisodia, R. S. 2011. Conscious Capitalism: A Better Way to Win: A Response to James O'Toole and David Vogel's "Two and a Half Cheers for Conscious Capitalism". *California Management Review*, 53, 3, 98-108.
- Sramek, J. 2013. *Making use of Big Data in corporate training* [Online]. trainingzone. Available: <http://www.trainingzone.co.uk/feature/making-use-big-data-corporate-training/185256> [Accessed 09 February 2015].
- St-Jean, E. & Audet, J. 2012. The role of mentoring in the learning development of the novice entrepreneur. *International Entrepreneurship and Management Journal*, 8, 1, 119-140.
- Steensma, H. & Groeneveld, K. 2010. Evaluating a training using the "four levels model". *Journal of Workplace Learning*, 22, 5, 319-331.
- Suciu, G, Vulpe, A, Todoran, G, & Militaru, T.-L. G. Y. C. 2014. Cloud Computing And Big Data As Convergent Technologies For Mobile E-Learning. *eLearning & Software for Education*, 1, 113-120.
- Suttapong, K., Srimai, S. & Pitchayadol, P. 2014. Best Practices for Building High Performance in Human Resource Management. *Global Business & Organizational Excellence*, 33, 2, 39-50.
- Teo, T. 2011. Modeling the determinants of pre-service teachers' perceived usefulness of e-learning. *Campus-Wide Information Systems*, 28, 2, 124-140.
- Thompson, L., Jeffries, M. & Topping, K. 2010. E-mentoring for e-learning development. *Innovations in Education and Teaching International*, 47, 3, 305-315.
- Thornton, C. 2010. *Group & Team Coaching: the essential guide*, Routledge.
- Tiernan, P. 2014. Examining the use of interactive video to enhance just in time training in the workplace. *Industrial and Commercial Training*, 46, 3, 155-164.
- Toole, T. 2011. Social media: key tools for the future of work-based learning. *Development and Learning in Organizations: An International Journal*, 25, 5, 31-34.
- Truitt, D. L. 2011. The Effect of Training and Development on Employee Attitude as it Relates to Training and Work Proficiency. *Sage Open*, 1, 3, 1-13
- Tsai, M.-J. 2009. The Model of Strategic e-Learning: Understanding and Evaluating Student e-Learning from Metacognitive Perspectives. *Educational Technology & Society*, 12, 1, 34-48.
- Úbeda-García, M., Claver Cortés, E., Marco-Lajara, B. & Zaragoza-Sáez, P. 2014. Strategy, training and performance fit. *International Journal of Hospitality Management*, 42, 100-116.
- Vidal-Salazar, M. D., Hurtado-Torres, N. E. & Matías-Reche, F. 2012. Training as a generator of employee capabilities. *International Journal of Human Resource Management*, 23, 13, 2680-2697.
- Vodacom. 2014a. *Our Profile* [Online]. Vodacom. Available: <http://www.vodacom.com/about-us/about-us/company-profile> [Accessed 15 March 2015].
- Vodacom 2014b. Vodacom Integrated Report for the year ended 31 March 2014. Vodacom.
- Wallo, A., Ellström, P.-E. & Kock, H. 2013. Leadership as a balancing act between performance-and development-orientation: A study of managers' and co-workers' understanding of leadership in an industrial organisation. *Leadership & Organization Development Journal*, 34, 3, 222-237.

- Wang, M. 2011. Integrating organizational, social, and individual perspectives in Web 2.0-based workplace e-learning. *Information Systems Frontiers*, 13, 2, 191-205.
- Wang, M., Vogel, D. & Ran, W. 2011. Creating a performance-oriented e-learning environment: A design science approach. *Information & Management*, 48, 7, 260-269.
- Wilbanks, J. E. 2014. E-Mentoring: Examining the Feasibility of Electronic, Online, or Distance Mentoring. *Journal of Higher Education Theory & Practice*, 14, 5, 24-28.
- Wilkesmann, M. & Wilkesmann, U. 2011. Knowledge transfer as interaction between experts and novices supported by technology. *VINE*, 41, 2, 96-112.
- Williams, S., Sunderman, J. & Kim, J. 2012. E-mentoring in an Online Course: Benefits and Challenges to E-mentors. *International Journal of Evidence Based Coaching & Mentoring*, 10, 1, 109-123.
- Wilson, J. 2014. *Essentials of business research: A guide to doing your research project*, Sage.
- Xin, W. & Xiaoting, Q. 2014. Research on Situation and Countermeasures of Employee E-learning Training in Chinese Enterprises. *3rd International Conference on Science and Social Research*, 314-317, Atlantis Press, Paris.
- Yates, K. & Smith, B. 2015. Managing, Tracking and Evaluating Coaching Part 2: Where could you be? *Industrial and Commercial Training*, 47, 2, 95-98.
- Zhang, D., Zhao, J. L., Zhou, L. & Nunamaker Jr, J. F. 2004. Can e-learning replace classroom learning? *Communications of the ACM*, 47, 5, 75-79.
- Zhao, F. & Kemp, L. J. 2012. Integrating Web 2.0-based informal learning with workplace training. *Educational Media International*, 49, 3, 231-245.
- Zwane, J. V., Surujlal, J. & Dhurup, M. 2014. Relevance of further education and training college engineering learning programmes within the apprenticeship context. *Mediterranean Journal of Social Sciences*, 5, 23, 990-998.

Appendix 1

QUESTIONNAIRE

TOPIC: Effect OF E-Learning on Employees at Vodacom

Please tick the relevant blocks for each of the questions / statements. The questions will require only a tick in a single block per question unless specified otherwise.

1. Number of years working for Vodacom

1	2	3	4	5	6	7	8	9	10 or more years
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Please select your age group?

20-29	30-39	40-49	50-59	41-45	60 and over
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Gender

Male	Female
<input type="checkbox"/>	<input type="checkbox"/>

4. Race

Black	White	Coloured	Indian
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. What is your current Job level?

Junior Specialist	Senior Specialist	Team leader	Project Manager	Department Manager	Executive Head of Division
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Number of hours spent on e-learning programs at Vodacom

1-5 hours	6-10 hours	11-15 hours	16 hours or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. What types of e-learning have you experienced at Vodacom. (You may select more than one type)

Online Tutorial	<input type="checkbox"/>
Virtual Classes	<input type="checkbox"/>
Streaming Video Lessons	<input type="checkbox"/>
Streaming Audio Lessons	<input type="checkbox"/>
Computer-based Training via CD-ROM/DVD	<input type="checkbox"/>
Instructor led lessons via Video Conferencing	<input type="checkbox"/>
Instructor led lessons via Tele-Conferencing	<input type="checkbox"/>

8. How many e-learning sessions have you attended at Vodacom?

1	2	3	4	5 or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. I find training via e-learning to be ...

thoroughly enjoyable	<input type="checkbox"/>
sufficiently enjoyable	<input type="checkbox"/>
barely enjoyable	<input type="checkbox"/>
not enjoyable	<input type="checkbox"/>

10. Please rate the e-learning program which you have attended based on

	Very Poor	Poor	Neutral	Good	Very Good
General appearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ease of navigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Do you like e-learning?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

12. If you answered Yes to question 11 what did you like about the e-learning courses?

They were interesting	<input type="checkbox"/>
They are relevant to my work.	<input type="checkbox"/>
They contained accurate and up to date material	<input type="checkbox"/>
They were easy to understand and the content was clearly explained	<input type="checkbox"/>
None of the above	<input type="checkbox"/>

13. If you answered No to question 11 what did you not like about the e-learning courses you attended?

They contained inaccurate and out dated material	<input type="checkbox"/>
They were difficult to understand	<input type="checkbox"/>
They were not suited for my line of work	<input type="checkbox"/>
They were dull and boring	<input type="checkbox"/>
None of the above	<input type="checkbox"/>

14. Were you comfortable with the pace of the learning?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

15. What was your reason for answering 'No' to question 14?

The content was updated too quickly	<input type="checkbox"/>
The content was updated too slowly	<input type="checkbox"/>
Access to the e-learning was poor	<input type="checkbox"/>
I could not review the previous lesson	<input type="checkbox"/>
The teaching did not suit my style of learning	<input type="checkbox"/>

16. How would you describe your managers involvement in e-learning

My manager identified the need for my training	<input type="checkbox"/>
My manager established expectations in terms of the training outcomes	<input type="checkbox"/>
My manager motivated me during my e-learning experience	<input type="checkbox"/>
My manager encouraged me to apply what I have learnt	<input type="checkbox"/>
My manager set training and evaluation objectives	<input type="checkbox"/>

17. What is your manager's attitude towards e-learning?

My manager is supportive of e-learning	<input type="checkbox"/>
My manager is unsupportive of e-learning programs	<input type="checkbox"/>
My manager is unaware of e-learning programs	<input type="checkbox"/>

18. Having participated in e-learning I would

Recommend the training for my fellow work colleges	<input type="checkbox"/>
Suggest improvements to the course	<input type="checkbox"/>
Request traditional teaching but keep the same content	<input type="checkbox"/>
Request traditional teaching and change the course content	<input type="checkbox"/>

19. E-Learning has had the following effects

	Strongly Disagree	Disagree	Agree	Strongly Agree
My general skill level has increased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My confidence levels are greater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My knowledge of the subject matter has increased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My knowledge has increased but not specifically of the subject matter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have a greater understanding of my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have a greater commitment to my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am able to teach what I have learnt to others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. How would you describe your recall of the content?

I can recall all that I was taught	<input type="checkbox"/>
I have retained most of the content but might need a refresher course	<input type="checkbox"/>
I can vaguely remember some of the content	<input type="checkbox"/>
I cannot recall any of the content from the e-learning	<input type="checkbox"/>

21. To what extent can you apply the knowledge and skills acquired from e-learning training to your workplace?

I have been able to apply all of what I have learnt	<input type="checkbox"/>
I can apply most of what I have learnt	<input type="checkbox"/>
I can apply some of what I have learnt	<input type="checkbox"/>
I can apply very little of what I have learnt	<input type="checkbox"/>
I cannot apply any of what I have learnt	<input type="checkbox"/>

22. Since you have stated that you cannot apply the training from e-learning to your workplace, what is the reason for this?

The training was irrelevant to my job	<input type="checkbox"/>
The training content was outdated and could not be applied to my job in its current form	<input type="checkbox"/>
I have had no opportunity to apply my new skills	<input type="checkbox"/>
I have not been able to retain the knowledge from the training	<input type="checkbox"/>

23. Are there processes or systems in place to evaluate how well you have applied your e-learning to your work area?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

24. Since you answered Yes to question 23 what was the outcome of the evaluation

I am rewarded for applying e-learning to my work area	<input type="checkbox"/>
I was recognised for applying e-learning to my work area but I was not rewarded	<input type="checkbox"/>
I was not rewarded or recognised for applying e-learning to my work area	<input type="checkbox"/>

25. How would you describe your motivational level since completing your e-learning programs

I feel extremely motivated	<input type="checkbox"/>
My motivational levels have increased slightly	<input type="checkbox"/>
My motivation has not increased since the training	<input type="checkbox"/>
I feel extremely demotivated after the training	<input type="checkbox"/>

26. I feel motivated because e-learning ...

is linked to my career goals	<input type="checkbox"/>
has improved my career prospects	<input type="checkbox"/>
has made me more competent at my job	<input type="checkbox"/>
has increased my knowledge	<input type="checkbox"/>
has increased my desire to learn further	<input type="checkbox"/>

27. I do not feel motivated because e-learning ...

is not linked to my career goals	<input type="checkbox"/>
has not improved my career prospects	<input type="checkbox"/>
has not improved my skills	<input type="checkbox"/>
has not increased my knowledge	<input type="checkbox"/>

28. Based on e-learning which I have received I feel that ...

	Not Applicable	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am more productive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have less customers (internal or external) complaints	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of my work has improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am able to work at a faster pace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am able to complete tasks more efficiently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am able to provide more innovative solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can interact confidently with my peers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can reduce waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

29. I believe that...

e-learning is a waste of time and resources	<input type="checkbox"/>
needs to be developed to be more relevant	<input type="checkbox"/>
is the best way to learn in the modern organisation	<input type="checkbox"/>

Appendix 2

Gate Keeper Letter



TO: Prof Anesh Maniraj Singh
University of KwaZulu Natal

Cc: Kovilan Moodley

From: Tshepo Ramodibe, Executive Head: Corporate Affairs

Date: 5 June 2015

Subject: **TO WHOM IT MAY CONCERN**

Dear Madam/Sir

This serves to confirm that Kovilan Naidoo currently registered for a Master of Business Administration (MBA) Degree with UKZN is doing his research study titled: **Effect Of E-Learning on Employees at Vodacom**

Mr Moodley has been given approval by Vodacom to do his research and get information he requires from the company. Ms Ntshakang is responsible for ensuring that all information gathered and used is according to Vodacom's rules and conditions.

Therefore Vodacom agrees to the survey on the following conditions:

- All information accessed and shared is not categorised as company confidential.
- All information gathered will only be used for academic purposes.
- There's no information that will be used as part of any case study without prior consent by Vodacom.
- No information will be shared in any public platform.

If there are any questions or concerns please feel free to contact me.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Tshepo Ramodibe".

Executive Head: Corporate Affairs

Landline: +27 11 653 5967

Mobile: +27 82 991 0851

Email: Tshepo.ramodibe@vodacom.co.za

Address: Vodacom Corporate Park

082 Vodacom Boulevard, Midrand 1685

Appendix 3

Introductory Letter

UNIVERSITY OF KWAZULU-NATAL GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Dear Respondent,

MBA Research Project

Contact Person	Contact Number	Email Address
Researcher: Kovilan Moodley	084 680 5951	kovilan@cybicom.com
Supervisor: Professor Anesh Maniraj Singh	(031) 260 7061	
Research Office: Ms M Snyman	(031) 2608350	

I, **Kovilan Moodley**, am an MBA student, at the Graduate School of Business and Leadership, of the University of KwaZulu Natal. You are invited to participate in a research project entitled **Effect OF E-Learning on Employees at Vodacom**. The aim of this study is: To study the effect of e-learning programs at Vodacom through the analysis of its effect on their employees. The rationale for the study centers on the important role e-learning fulfils as part of the learning infrastructure of Vodacom as well as the impact it has on employee motivation, skills development and productivity.

Through your participation I hope to understand the effect of e-learning at Vodacom. The results of the questionnaires are intended to contribute to the body of knowledge on e-learning.

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 and Leadership, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above. The survey should take you about **10-15** minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator's Signature

Date

This page is to be retained by participant

Appendix 4
Consent Letter

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project

Contact Person	Contact Number	Email Address
Researcher: Kovilan Moodley	084 680 5951	kovilan@cybicom.com
Supervisor: Professor Anesh Maniraj Singh	(031) 260 7061	
Research Office: Ms M Snyman	(031) 2608350	

CONSENT

I.....(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT

DATE

This page is to be retained by researcher

Appendix 5

Ethical Clearance



13 May 2015

Mr Kovilan Moodley
Graduate School of Business & Leadership
Westville Campus

Dear Mr Moodley,

Protocol reference number: HSS/0464/015M
Project title: Effect of E-Learning on employees at Vodacom

Full Approval – Expedited Application

With regards to your application received on 07 May 2015. The documents submitted have been accepted by the Humanities & Social Sciences Research Ethics Committee and **FULL APPROVAL** for the protocol has been granted.

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 disciplina/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

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

Yours faithfully,

Dr Shenuka Singh (Chair)

/ms

Cc: Supervisor: Professor Anesh Maniraj Singh
Cc Academic Leader Research: Dr Muhammad Hoque
Cc School Administrator: Ms Zarina Bullyraj

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

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Telephone: +27 (0) 31 260 3887/635014557 Facsimile: +27 (0) 31 260 4609 Email: yimbani@ukzn.ac.za / svmanam@ukzn.ac.za / mohuto@ukzn.ac.za

Website: www.ukzn.ac.za

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Appendix 6

Certificate from Language Editor

Jeanne Enslin
Freelance language practitioner

17 York Close
PARKLANDS
7441

20 June 2015

Proof of language editing

I, Jeanne Enslin, acknowledge that I did the language editing of **Kovilan Moodley's** dissertation submitted in partial fulfilment for the degree of Master of Business Administration.

The title of the dissertation is:

Effect of e-learning on employees at Vodacom

If any text changes are made to the electronic document which I sent to Kovilan Moodley on 20 June 2015, it needs to be returned to me to check the language of the changes. Formatting and checking of references were not done by me.



Jeanne Enslin
082 696 1224