

Chapter 6

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6 Synopsis of e-Readiness Findings

6.1 Introduction

In this chapter I present a synopsis of the findings and orientate the findings in the context of the theoretical framework as discussed in § 2.12. I used the term “readiness barometer” to describe the differing inputs (Reeves, 1999) individuals and communities may present when challenged to become involved in e-learning or learning on the www. Figure 2.7 illustrated the “readiness filter” to demonstrate that the e-readiness of individuals and communities may differ when they respond to e-learning. Diverse characteristics merge into opportunities and then create profiles of readiness. Profiles of readiness are not fixed, but depend on socio-economic factors, experience, attitudes, individual differences and habits. I present these fluctuating attributes to a continuously adjusting barometer dependent on constraining and contributing influences. The readiness barometer implies that there are contributors and constraints that play a role to make the readiness level rise or fall. It also suggested that the warehouse workers have unique contributors or constraints that affected their e-readiness.

The findings emerged from the data presented in the previous chapter. It stems from the conclusions presented at the end of each sub-question. Each of the six conclusions described the emergence of an inventory of twenty conceptual codes of e-readiness and how it related to the readiness of the warehouse workers. This chapter summarizes the six theory codes (technical experience, affective experience, aptitude, origins of motivation, access to computer infrastructure and organisation culture) and an inventory of applicable conceptual codes in order to look for meaningful patterns of e-readiness. The initial classification of the conceptual codes did not yield explicit patterns of readiness, and urged me to table all frequencies of the conceptual codes of e-readiness as classified against the theory codes (Table 6.1). The patterns and information I generated from this table, supported by the findings in chapter five, resulted in the seven main findings of this research. These main findings are described in the executive summary of this chapter.

6.2 Synoptic overview of the research

The previous chapter was an attempt to seek patterns and trends related to the main theory codes of e-readiness. It culminated an inventory of twenty conceptual dimensions of e-readiness that have been used to reveal the main trends and patterns relating to the e-readiness of the warehouse workers. In my endeavour to identify these trends, I have categorised these conceptual codes to explicate the readiness barometer relating to the relevant theory codes. The inventory of conceptual codes of e-readiness are briefly discussed and illustrated in Figure(s) 6.1 - 6.6.

The first sub-question related to the technical experience the warehouse workers had with computer technology to prepare them for e-learning. It emerged from the data that the warehouse workers had regular encounters with the computer technology that was available to them. Consequently the viability of e-learning increased; the workers' learning preferences were affected, the guidance and support they needed emerged to be different from the usual classroom support they were used to; and the encounters with computers seemed to lessen their anxiety for technology. The computer literacy of the warehouse workers have improved and with it their attitude and preference to work with computers. The technical encounters and accumulated computer literacy has made them aware of training strategies other than classroom training, and consequently introduced them to e-learning as a possible method of future instruction.

Figure 6.1 illustrates the e-readiness barometer relating to technical experience with computer technology. The barometer refers to an inventory of eight conceptual dimensions of e-readiness that may contribute to the technical e-readiness of warehouse workers.

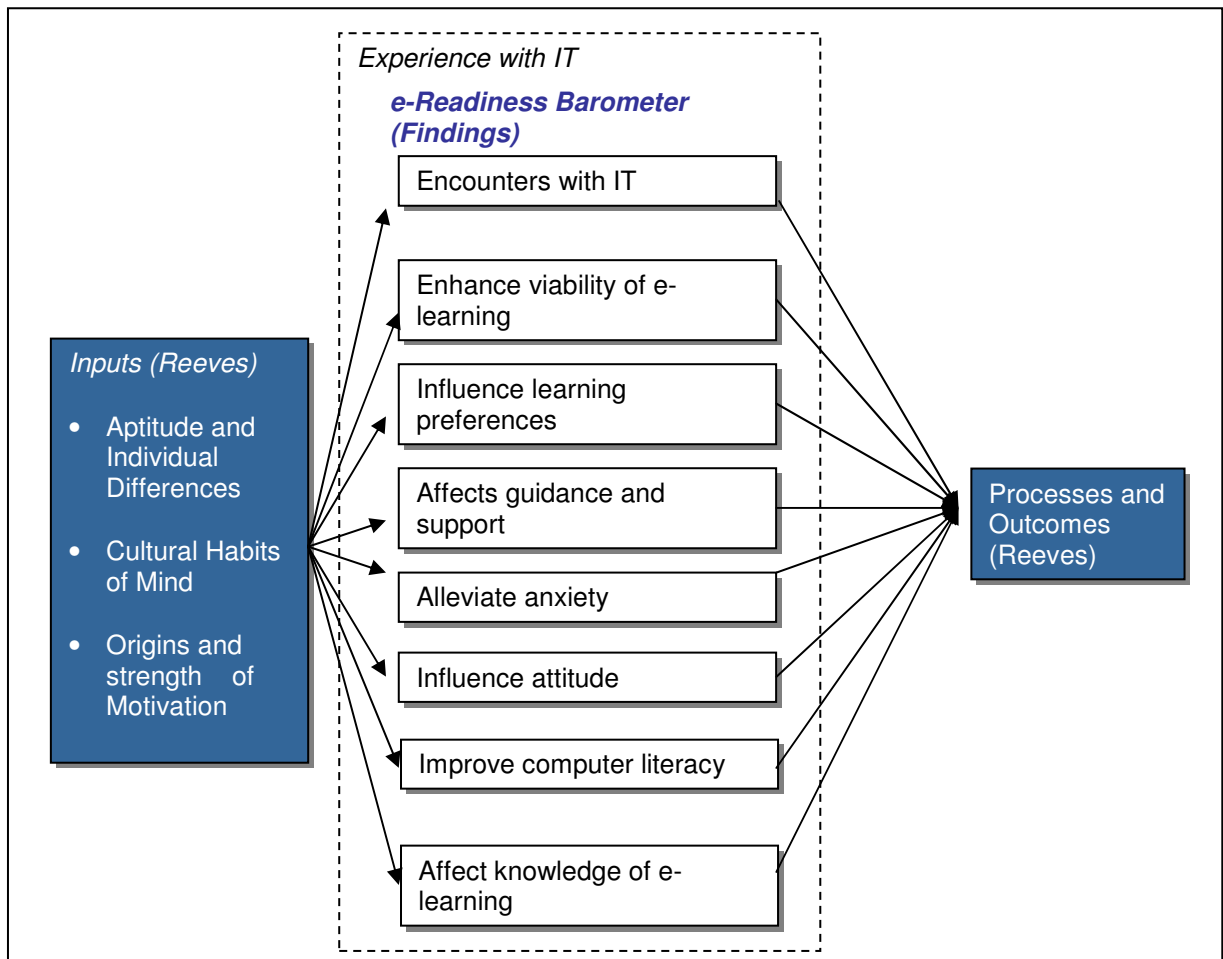


Figure 6.1 Technical experience with computer technology

Sub-question two explored the warehouse workers' affective experience with technology that may impact their e-readiness. It emerged from the data that the technical experience led to regular use

and higher skill and literacy levels with computers. These skill levels resulted in a pattern of rising confidence and acceptance of the offerings of computer technology as a possible training tool. The confidence gave rise to a new level of encounters and confidence to get involved in new areas with computer technology. Technophobia is described to cause negative emotions, such as anxiety, incompetence, fear, stress and nervousness (Gupta, 2001). It emerged that the warehouse workers were not scared of technology.

The affective experience with computer technology caused the warehouse workers to develop positive attitudes with regard to the possibilities of training with computers and even experience frustrations with slow systems. Figure 6.2 illustrates an inventory of nine conceptual dimensions of e-readiness related to affective experience with technology. This second barometer of e-readiness indicates that the warehouse workers have achieved an emotional readiness to be involved with computers.

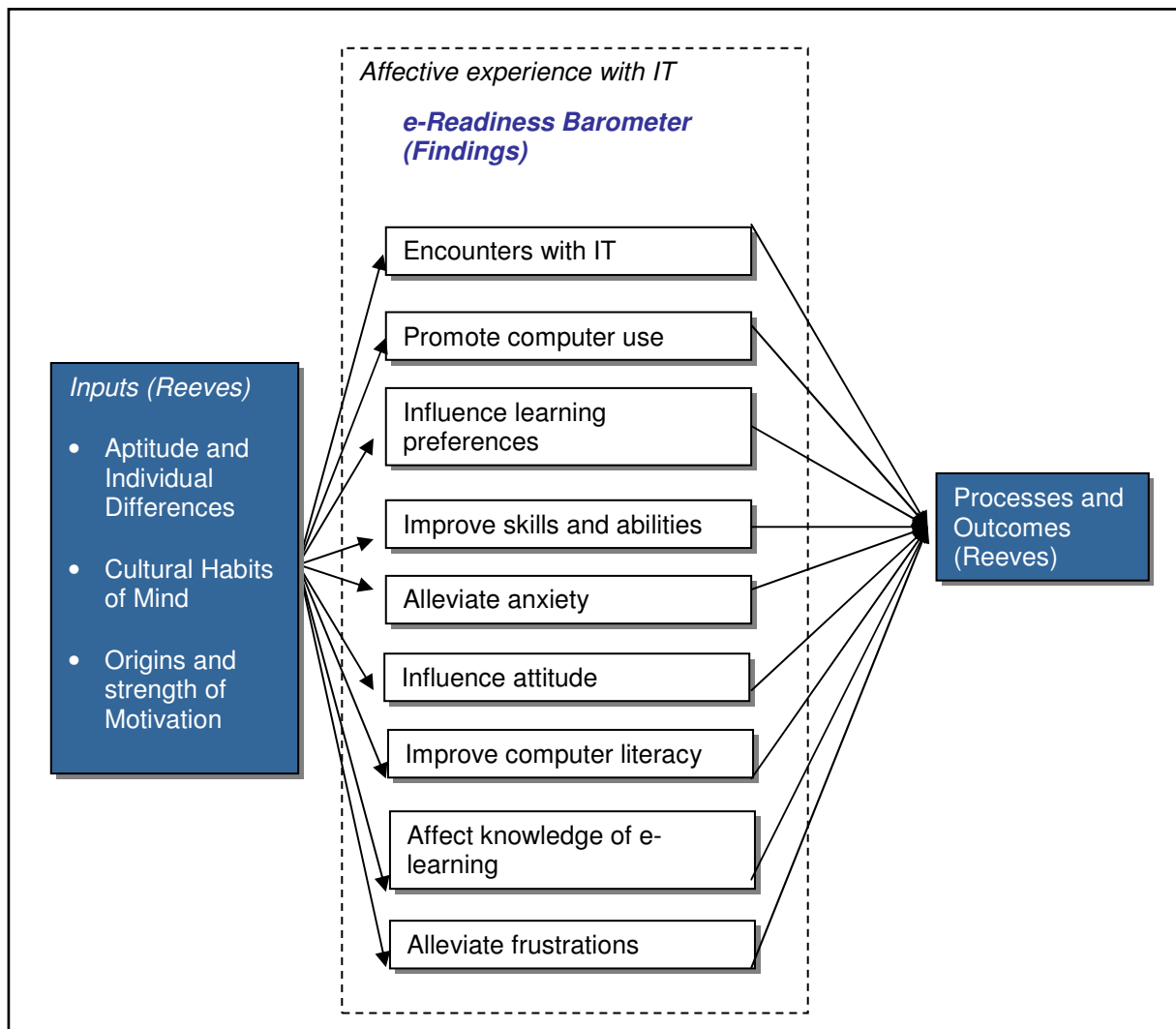


Figure 6.2 Affective experience with computer technology

The third sub-question explored the warehouse workers' aptitudes with regard to the use of the

computers. An interrelating pattern of technical and emotional readiness emerged from the data. An inventory of nine conceptual dimensions of e-readiness are related to the aptitude of which encounters with IT, computer literacy, learner preferences and higher skills and abilities are related to the technical experience of the computer technology. Emotional aptitude has developed through the positive attitude to computers, less anxiety, growing knowledge of e-learning, and belief that self-driven training may be a future option. It has also emerged that different guidance and support may be needed to support learning with computers. Figure 6.3 illustrates the e-readiness barometer relating to warehouse workers' aptitude with computer technology.

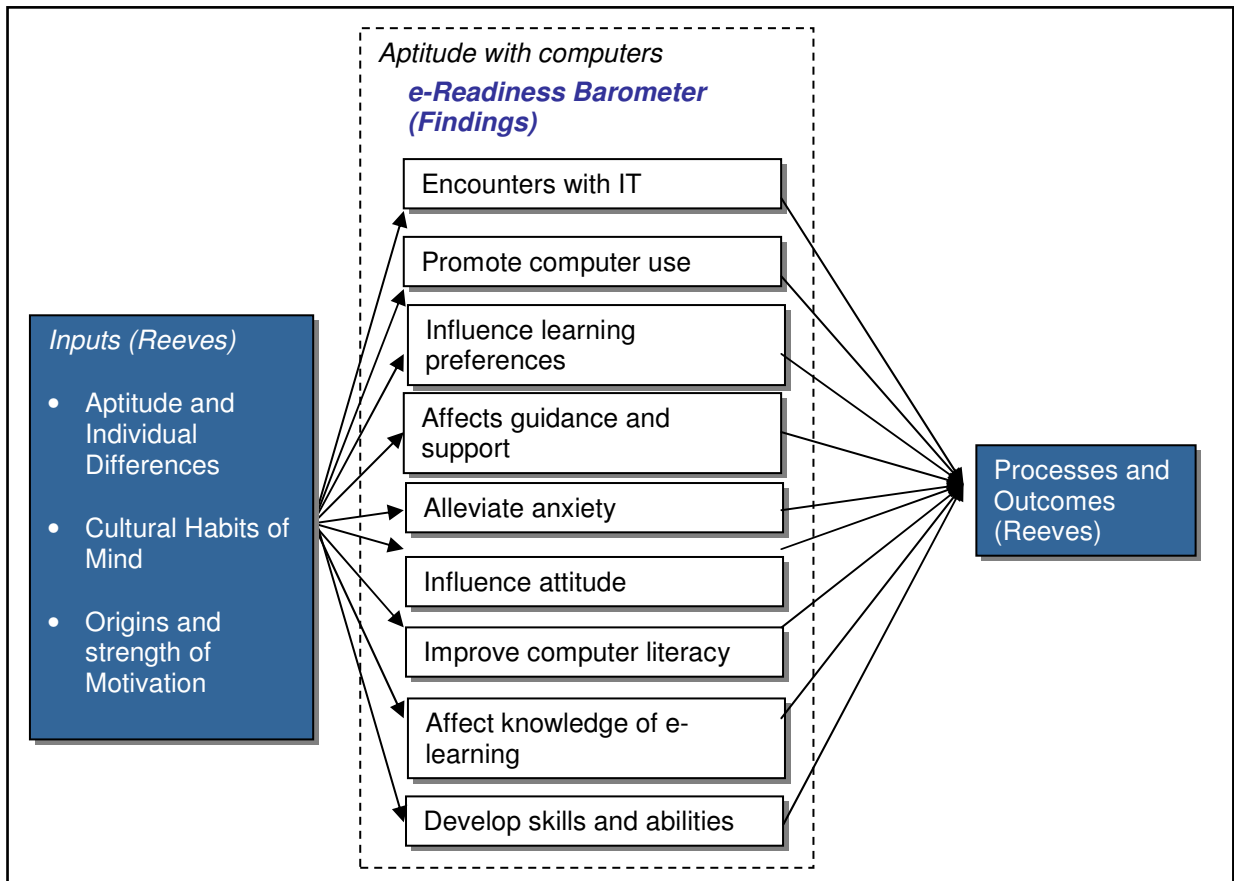


Figure 6.3 Warehouse workers' aptitude with computer technology

Sub-question four explored the origins of motivation that may induce warehouse workers to become e-ready. Origins of motivation have also been identified by Reeves as one of the main inputs to influence learners when working on the www. It has emerged from the data that the warehouse workers are motivated in various ways to become involved in e-learning. Fourteen of the twenty conceptual dimensions of e-readiness have been included in the inventory for origins of motivation.

Both extrinsic and intrinsic origins of motivation have emerged from the data. Warehouse workers indicated that the encounters with computers had extrinsic value to them and motivated them to use the computer in more areas. At the same time it had the value of acting as an intrinsic motivator by challenging the workers to be successful in their tasks and to try new procedures. The origins of motivation identified the organisation as the primary provider of these challenges. The

organisation culture emerged to be critical in determining the e-readiness of the warehouse workers. Aspects such as financial support, access to technology, guidance and support, learning plans, time for training, facilitator and management guidance and support emerged as important origins of motivation. The role of the organisation emerged as a critical motivator to create a receptive attitude and awareness of e-learning. Figure 6.4 illustrates the e-readiness barometer relating to origins of motivation.

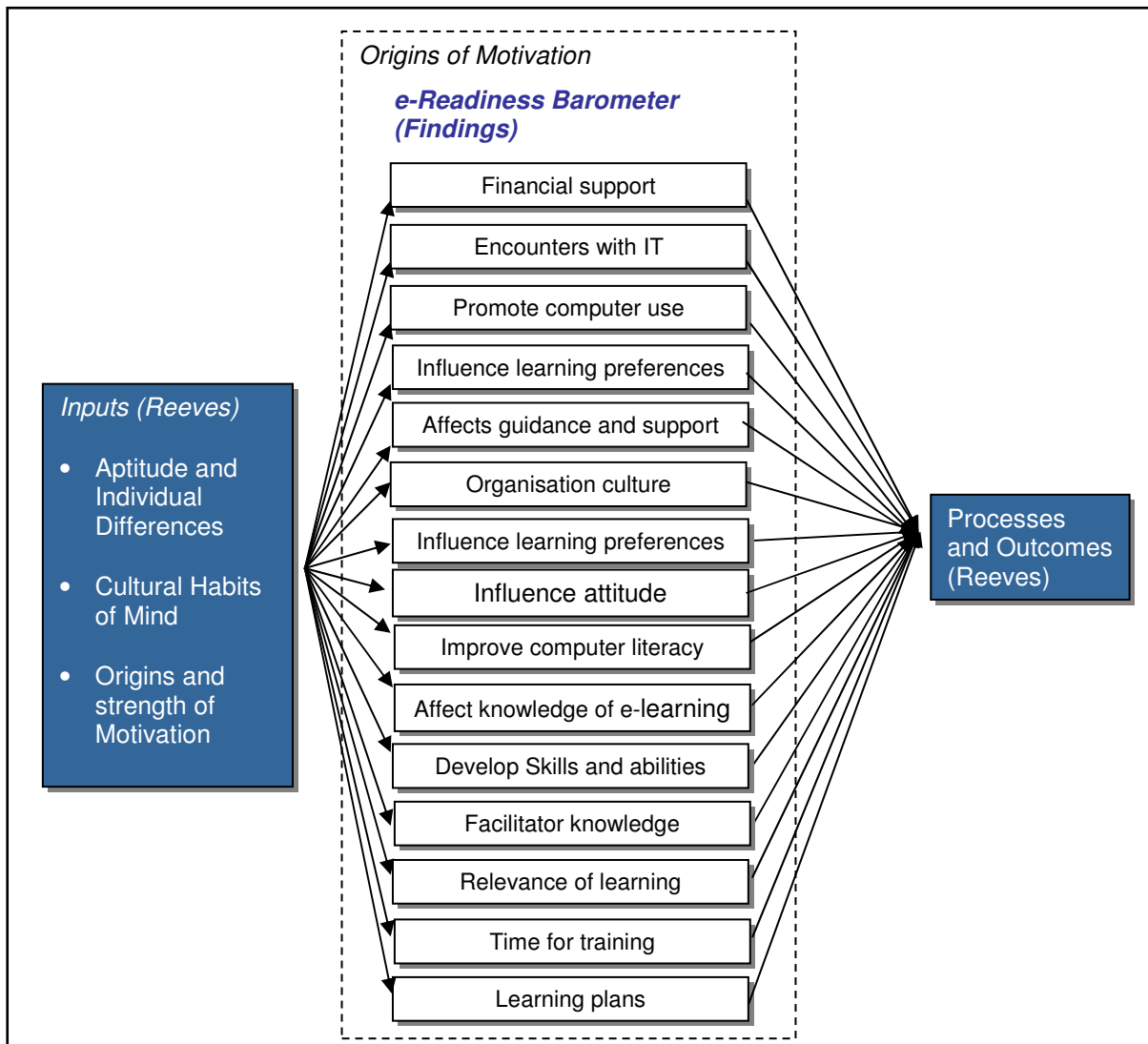


Figure 6.4 Origins of motivation relating to e-readiness of warehouse workers

The fifth sub-question explored the access of computer technology and how it contributed to the e-readiness of warehouse workers. An inventory of nine conceptual dimensions of e-readiness has been identified. Access to computer technology is regarded to be a critical aspect to realize e-learning in an environment (Board of Regents University of Georgia, 2003; Bowles, 2004; Bridges Organization, 2001; Choucri *et al.*, 2003; Huang *et al.*, 2004; ICT Charter, 2004; Ifinedo, 2005; Khan, 2005). The

pattern that emerged from the data indicated that access to the infrastructure led to encounters with computers, enhanced the skills and abilities with computers, opened new opportunities, and influenced the learning preferences of the warehouse workers. It appeared as if access to computers positioned the warehouse workers for new challenges. Figure 6.5 illustrates the e-readiness barometer relating to access to computer technology and that it affects the viability of e-learning in the workplace.

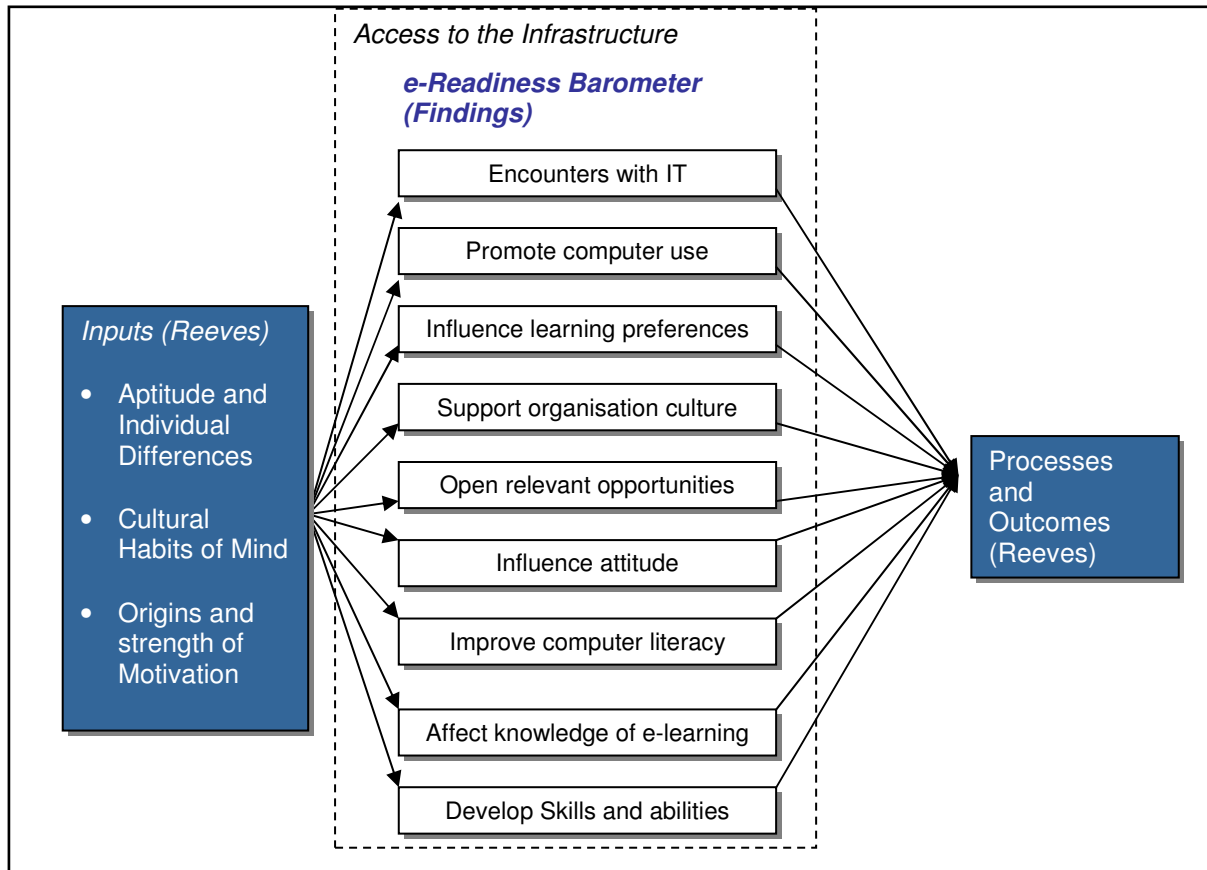


Figure 6.5 Access to computer technology relating to e-readiness of warehouse workers

Sub-question six referred to the role of the organisation’s e-maturity as contributor to the e-readiness of the warehouse workers. The data revealed the growing role of the organisation in the e-readiness of the warehouse workers. Eleven of the conceptual dimensions of e-readiness related to the organisation’s maturity to contribute to the e-readiness of the warehouse workers. As employees they were dependent on direction from the workplace, not only to provide the infrastructure and access, but also to provide the maturity in its utilisation of the infrastructure and management of the workers. This readiness barometer relating to organisation culture includes aspects such as encounters with computer technology, use of computers, guidance and support, time for training, financial support, facilitation and knowledge of e-learning. The e-maturity of the organisation is also the determinant of the viability of e-learning. Figure 6.6 illustrates an inventory of eleven conceptual codes of e-readiness relating to the e-readiness of the warehouse workers.

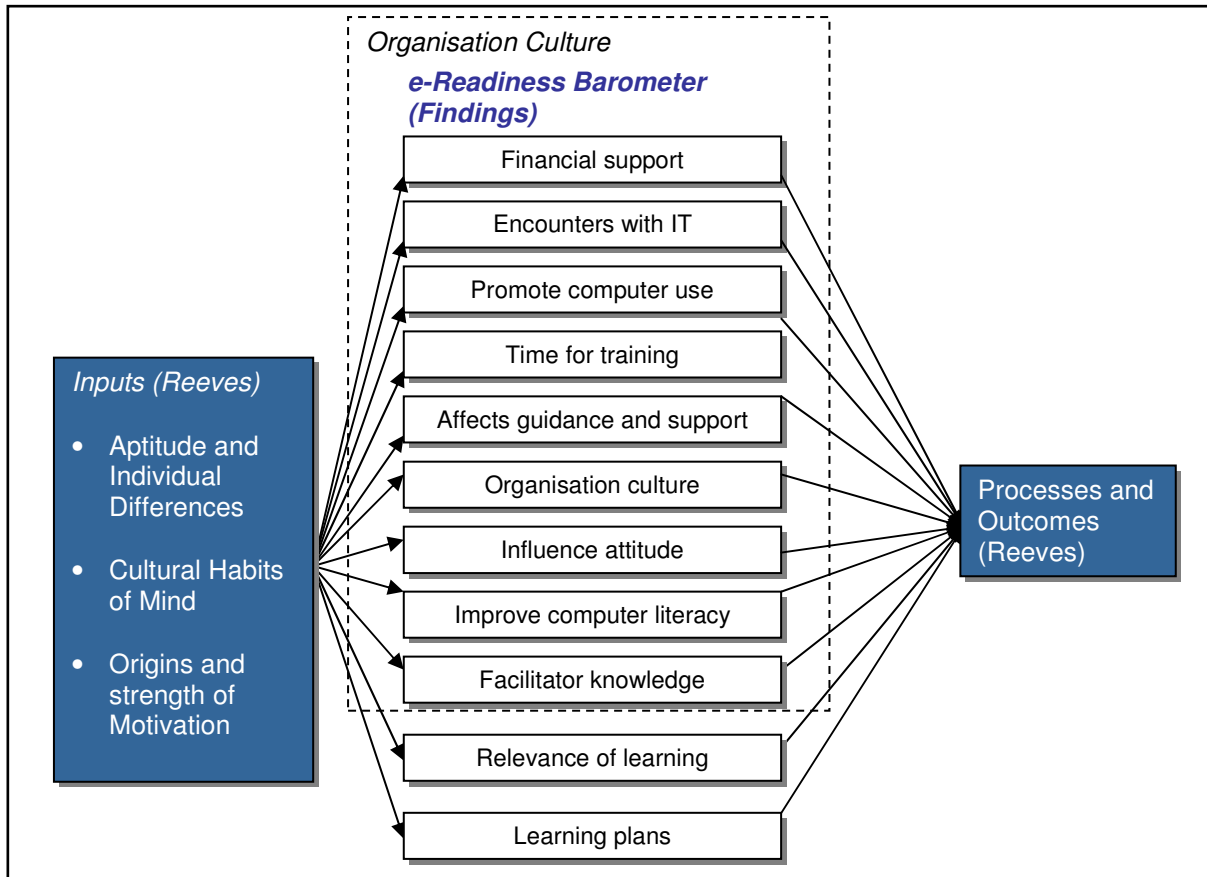


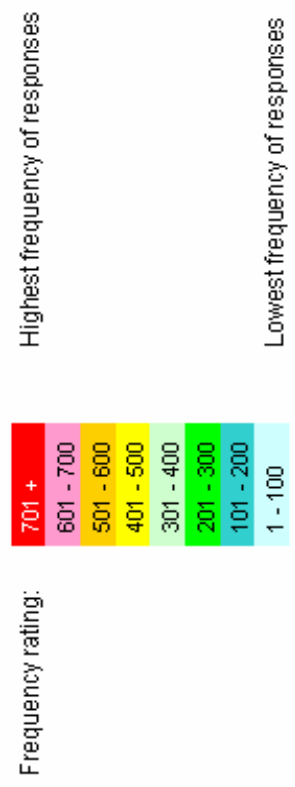
Figure 6.6 Organisation e-maturity as contributor to e-readiness of warehouse workers

The six questions revealed an interesting inventory of twenty conceptual dimensions of e-readiness. The data indicated that the warehouse workers had access to IT which explained their encounters with IT. These led to the development of skills, abilities and a basic computer literacy. This resulted in the aptitude to work with computers and the confidence that computers may be utilised in more areas to contribute to their learning plans. It has also emerged that the warehouse workers were dependent on the organisation in various ways to provide the leadership and knowledge to become successful in e-learning.

But, unfortunately a logical order was not yet clear. I then decided to draw up a summary table to compare the frequency of responses of the inventory of identified conceptual codes. Table 6.1 illustrates the twenty conceptual dimensions of e-readiness that have emerged from the data by means of an inductive/deductive analysis. Each of the six sub-questions are represented in the left column as a theory code while the conceptual codes of e-readiness are listed on the x-axis. The frequencies of responses have been included as they have been encoded during the analysis with Atlas.ti™. A comparison and analysis of the frequencies revealed interesting information and enabled me to generate the main findings of this study.

Table 6.1 Patterns of e-readiness theory codes with conceptual dimensions of e-readiness as identified from interviews and observations

Theory Codes	Conceptual Codes																			
	Anxiety	Attitude	Classroom training	Computer literacy	Computer use	Connectivity-	Encounters with IT	Facilitator	Financial aspects	Guidance & Support	Knowledge of e-learning	Learner frustrations	Learning plan	Learning preferences	Managerial contributions	Organisation culture	Relevance	Skills and abilities	Time constraints	Viability of e-learning
Technical experience	41	69	49	241	293	62	526	59	33	108	59	54	93	121	67	122	90	307	60	81
Affective experience	168	207	213	377	426	227	611	222	201	235	222	192	244	262	232	281	255	458	225	244
Aptitude with computer	257	290	306	371	367	313	599	313	282	361	313	304	346	337	323	366	345	374	312	446
Origins of motivation	537	567	561	619	712	554	795	563	562	597	563	582	563	638	571	620	572	653	581	674
Access to technology	86	124	149	296	351	86	538	144	119	192	144	138	179	203	153	178	175	375	143	300
Organization contributions	370	407	428	500	548	377	726	421	394	445	421	415	414	482	402	415	451	571	399	536



□

6.3 Executive Summary of Findings

This categorisation illustrated in Table 6.1 along with the findings described in chapter five yielded interesting information. The following seven areas were identified to be the most significant findings that emerged from the data:

- computer use, encounters with IT and computer literacy
- anxiety and attitude
- managerial contributions: guidance and knowledge of e-learning
- infrastructure and connectivity
- learning preferences
- access to computer technology as origin of motivation, and
- role of the organisation.

These findings relate to the warehouse workers as individuals, how their personal readiness was affected, and how they benefited as a community to be involved with computer technology. The findings revealed the critical role of the managers and training facilitators and that knowledge of e-learning is an important aspect to the readiness of the workers. It referred to the support role that is expected from the organisation to provide in the infrastructure that the warehouse workers can't afford. The e-maturity of the organisation appears to hold the key for the warehouse workers to become involved in e-learning.

6.3.1 Computer use, encounters with IT and computer literacy

This first finding confirmed that warehouse workers experience computer technology to such an extent that they can be introduced to e-learning. The column "Encounters with IT" illustrated in Table 6.1 indicates the high frequency of responses as received from the SMEs, warehouse workers and their managers. "Computer use" and "Computer literacy" also received high frequencies of responses. These three conceptual codes related to the encounters (contact) the warehouse workers had with technology (not necessarily using it, but being surrounded and aware of its use and presence), their different ways of using it in the course of their work responsibilities and lastly the resulting computer literacy from these encounters and use of computers.

Their experiences as a working community concur with the concept "community of practice" described by (Lesser & Storck, 2001; Smith, 2003; Wenger & Por, 2004). Warehouse workers as a community shared in the objectives of the organisation and experienced regular, basic activities with technology. The learned social activities expected from them have given them the benefits of a community of practice (Lesser & Storck, 2001; Smith, 2003; Wenger & Por, 2004). Their involvement and interest in the business presented them with a knowledge and sense to complete the expected requirements with confidence (Wenger & Por, 2004). Warehouse workers are instrumental in the success of SCM companies and play an important role in the business' procedures. The organisation relies on the warehouse workers to receive stock, process the arrival and store the stock in assigned bin areas in the warehouses. They also need to find the stock when it has been ordered and go through the necessary procedures to find, pack and despatch stock to be delivered to the various customers of the

organisation. All these procedures are systems-driven and supported, and require a basic computer knowledge and skill from the warehouse workers. Warehouse workers find themselves enclosed in a technical environment intended to add to the profit-driven ethos of the organisation. They have become part of Castells' "Network Society" (Huckle, 1997) where companies depend on the availability of technology to compete and survive against other companies in the world.

The interviews and observations confirmed that the warehouse workers have experienced computers through the mainframe systems and occasionally used computer technology for training, e.g. ABET or sporadic CBT courses. They regularly receive e-mail messages and occasionally send some of their own. They operate personal cell (mobile) phones to send text messages. Their encounters with computer technology provided them with an aptitude and skill to use the technology and the attitude to be motivated when they may be confronted with relevant challenges. As one of the warehouse managers stated: "... that first fear of this machinery, they're beyond that already..." 3:180 (1087:1088) - meaning that the warehouse workers have achieved an acquired skill level that is sufficient for the work they do every day. Computers are tools that they regard to be a support facility. They do not stand in awe of it, and do not hesitate to use it when needed for familiar procedures.

The experiences the warehouse workers have accrued with the encounters with computers and have also positively influenced their computer literacy and aptitudes with technology. It concurs with the view held by Irving (2000) that increased computer use leads to increased constructivist practice. Although the necessary aptitudes for e-learning may be limited and not yet developed, an important skill to get involved with computers has been achieved. Warehouse workers showed the ability to type, read instructions from the monitors, understand the e-mail messages and respond to instructions. Individual differences were clear in the way the warehouse workers responded to the challenges, but a uniform eagerness and determination have been observed to be involved in computer technology. Their skills have developed through the encounters with computer technology during their daily responsibilities in the workplace.

These findings concur with Reeves' (1999) view with regard to learner inputs, that the origins of motivation, aptitude and individual differences may play an important role in the way e-learning has to be planned and developed. Although workers will be extrinsically motivated to use the computer technology, the responsible instructional designers need to be aware how to design instruction for the computer technology to motivate the workers, and what their skills and aptitudes are in order to provide relevant learning strategies at the right level for this target group.

To conclude, warehouse workers encounter and use technology actively every day in the work-place, and have developed sufficient skills and literacy to allay arguments that they are technically not ready for the challenge of e-learning.

6.3.2 Anxiety and attitude as a result of experience with IT

My second finding was that anxiety does not prevent warehouse workers to get involved with computer technology. Warehouse workers did not suggest that they were scared or afraid to use the technology. However, they had experienced anxiety and apprehension when confronted with a tutorial, but their anxiety did not prevent them to participate in exercises that involved computer technology. My initial expectations were that warehouse workers may be overawed by the technology and may be scared to use or to get involved with technology.

Khan (2005) argued that inexperience may lead to anxiety, and such learners may need more guidance and assistance. The warehouse workers have experienced computers to complete their business tasks and have passed the stage where they are intimidated by the technology. Their daily responsibilities require them to log in and complete mainframe procedures. When confronted with these familiar challenges they appeared to be emotionally on an equal footing with any other administrative group within the organisation. They did not display any anxious behaviour during the completion of their daily responsibilities, and expressed a confidence in their ability to learn with computers.

During the tutorial exercises, the participants seemed unsure and anxious, and confirmed Khan's (2005) view regarding inexperience and anxiety. The uncertainty grew from the unfamiliarity with the training intervention, which the warehouse workers were not used to. Johnson and Aragon (2001) explained the different skills and capabilities that are needed from self-driven learners, where the learner needs to take control and construct his own knowledge from the presented content. Warehouse workers were used to classroom training where they were passive receivers of information, hence the anxiety during the tutorial observations. However, the strangeness and unfamiliar strategy did not discourage the participants to carry on, their attitudes were positive and determined to complete the challenges put before them. Their anxiety when being confronted with a new and unfamiliar training strategy could be understood, considering their history of classroom training. Their schooling and the way they were trained in the organisation made them used to being tutored and directed to achieve an objective in the classroom. I found that the participants at times could not understand the lack of assistance from me when they tried to negotiate the tutorial. They expected to receive help every time they were uncertain during the tutorial. This was the way they were used to in classrooms.

SMEs did not regard the workers to be too anxious to learn with computers, most agreed that guidance and knowledgeable instruction was a bigger problem. Rather than experiencing anxiety, it has been found that some overrate their own abilities with computers and are almost naïve in their belief that they would be able to learn with computers on their own. It appeared that the experience that they have already had with computers had given them a confidence and attitude that they would be able to cope with computer technology. It also appeared that they enjoyed the contact with the computers and had hoped to be more involved with computer technology.

Questions may be asked that, if warehouse workers as a community within a developing nation, express a willingness and eagerness to be involved in technology, and do not show anxiety to such an extent that it deters them from getting involved with technology, why then a digital divide? Figure 2.3 illustrated the digital divide (Cronje, 2004) and to indicate that the developed world and the developing world should be aware of the needs of one another, to prevent the digital gap from widening. According to some of the SMEs such awareness does not always exist, and e-learning programmes are often presented to learners without proper needs analyses. These programmes result in anxiety and lack of progress. The importance of relevancy and thorough knowledge of the target population is supported by the view held by Gurstein: “how and under what conditions can ICT be made useful and usable to the range of excluded populations ... particularly to support local economic development, ...” (2003 p. 4). Hoppers described it as “diverse knowledge” that should be known and understood in order to “operationalise empowerment” (Hoppers, 2002 p. 14). These views concur with Reeves’ model to be aware of individual differences and ways of input to guide instructional designers in their planning on the effectiveness of the www as a learning tool.

The warehouse workers have been introduced to computer technology and do not experience anxiety to such an extent that it prevents them from accepting the challenges of computer technology. To conclude, warehouse workers seem affectively ready for e-learning. Warehouse workers’ digital divide can be addressed by means of knowledgeable guidance via qualified instructional designers to challenge them with appropriate, relevant learning content.

6.3.3 Managerial contributions, guidance, support and knowledge of e-learning

A third finding was that the warehouse workers did not receive knowledgeable advice and support from their superiors to be regarded e-ready. High frequencies of responses were recorded when the theory code “origins of motivation” in Table 6.1 was related to managerial contributions, guidance and support and knowledge of e-learning. All three conceptual codes of e-readiness yielded frequencies of more than 550 in relation to origins of motivation. These high responses do not only confirm the value of these three conceptual codes as motivators, but also served as indicators of the critical value it held to realize e-learning for warehouse workers. Warehouse workers are dependent on knowledgeable e-learning leadership and guidance from the organisation to be able to transform to self-driven learners.

Warehouse workers are dependent as employees on the organisation to provide the infrastructure and the motivational values to be e-ready. These motivational values include aspects such as learning plans to guide and direct their careers, to be challenged with realistic achievable goals and objectives, direction and guidance from knowledgeable facilitators and support staff. It has emerged that warehouse workers have experience of technology and have accrued a valid computer literacy to get

involved in e-learning. However, they are still very dependent on leadership and guidance to become successful self-driven learners. This dependency puts the expertise and “e-knowledge” of the facilitators and managers under scrutiny.

The HR training manager has conceded that he does not know much about e-learning, and an alarmingly large number of the warehouse workers have admitted to not having a career plan in place. The concept “learning plan” is an initiative of the South African government’s Skills Development Act 97 of 1998, which require all organisations in South Africa to determine learning plans for their employees to ensure that all employee skills are developed and focused on the acquisition of a formal qualification. During the interviews, IHD had just appointed a new HR training manager after having been without such leadership for a few months already. It has probably affected the responses from some of the participants. In contrast to the warehouse workers’ majority view that they do not have structured learning plans in place, the managers argued mostly that these were sound and used as required. Some even conceded that it has been neglected: *... always have, but I have to admit, it’s been a long time since I did IDP [individual development planning]. It has always been driven by the training department, but since S left, nothing happened*⁵⁸ 4:64 (139:144). Management also seems to be dependent on guidance and support to get the employees motivated and to generate the drive to learn independently. With the HR manager not knowing what e-learning is and how it works, and the line managers also dependent on guidance, it left the warehouse workers in a very difficult position. Even if they have the experience, the motivation and the attitude to get involved with technology to develop with e-learning, chances were that they may be confronted with irrelevant training and with a “one size fits all” type of training. This type of learning strategy has been identified by one manager who regarded ABET as “Takalani” – education for children that does not necessarily benefit the learner’s career.

I do not imply that the managers neglect their duties at all, it merely emphasised the complexity of relevant career-driven learning plans within the organisational structure. Neither of the referred management groups saw it as their primary duty to prepare the learners for e-learning, nor did they have the knowledge of e-learning to provide accurate, relevant learning programmes to address the digital divide. The definitions of e-learning as stated in Chapter 2 highlighted that it is a training strategy with many facets that needs attention before being implemented. The definitions from Alessi and Trollip (2001), Anderson and Elloumi (2004), Bowles (2004), Gill (2003), Khan (2005), and others confirmed the complex nature of e-learning and that it may need professional facilitation to administer correctly. This emerging void of relevant e-learning knowledge is perceived by the warehouse workers as a lack of guidance and direction.

To conclude, my third finding was that managers and responsible facilitators do not have the knowledge and expertise to prepare the warehouse workers for e-learning.

⁵⁸ Het altyd, maar ek moet bieg en sê ek het lanklaas IDP planning gedoen. Ek dink in die verlede het die dryf altyd van die “training department” af gekom, toe S nog hier was.

6.3.4 Infrastructure and connectivity

The next finding was that the warehouse workers had ample access and connectivity to the networks, internet and computers to improve the viability for e-learning. Warehouse workers were observed in the workplace where they completed their tasks on computers available to them for the entire working day. They were connected to the organisation network and had the opportunity to communicate electronically with other connected employees. They were also connected to the internet. Accordingly the frequency of responses related to the conceptual code “connectivity” - illustrated in Table 6.1 - recorded significant responses when related to the “technical experience” and “motivational” theory codes.

The infrastructure manager of IHD confirmed that the organisation was well equipped to be competitive in the global market. This implied that the organisation was internationally and nationally connected to the global networks in order to attract international clients and to be a successful competitor. Global industry leaders needed to conform to the requirements of global competition, to be on the leading edge of the SCM industry and to have the privilege of updated information and knowledge of products, procedures, growth and offerings to its clients (Turban *et al.*, 2001).

According to the infrastructure manager, IHD had all the requirements in place, including internet connectivity to the warehouse workers.

Just about every machine in the company has internet access, even our warehouse machines which are terminals. There are only two things that they got on those machines. It is e-mail, access to e-mail and access to the internet 3:220 (1408:1415).

This connectivity concurs with the importance of access and infrastructure as described by Ifinedo (2005), Paxton (Business Wire, 2001), Piskurich (2003), Board of Regents, University of Georgia (Board of Regents University of Georgia, 2003) and other sources like Choucri, Maugis, Madnick and Siegel (2003) and Huang *et al.* (Huang *et al.*, 2004). They agreed that modern companies' strengths and capabilities are rated by their connectedness to other resources and role-players in the global network. While employing the infrastructure to compete and survive in the global world, the infrastructure is made available and to the benefit of its employees.

Table 6.1 indicates that this connectivity and access to the infrastructure has high motivational value and added directly to the technical experience that was required for e-learning. To conclude this section, as far as access and connectivity to an electronic computer infrastructure is concerned, the warehouse workers find themselves in an environment that is as e-ready as most other competitive organisations.

6.3.5 Learning preferences adapt with new skills

A preference can only be valid if the available options are known and comparable. My next finding was that warehouse workers mostly indicate that they prefer classroom training because it was the only option they knew. I was aware of a paradox throughout the interviews and observations. The questionnaire responses indicated that most of the warehouse workers preferred to be shown and guided by a knowledgeable person, rather than working on their own. In contrast, almost all the participants indicated during the interviews that they would like to be involved with computer training.

It was probably accurate to assume that they did not envisage e-learning in the same way that I had in mind. This is exactly my point. Warehouse workers do not know how to learn on computers without being tutored. According to Johnson and Aragon, it needs an entire paradigm shift to transform from a classroom-driven learner to become a self-reliant, participating, active learner (Johnson & Aragon, 2001). Regardless of the declared inclination towards classroom training, the motivational indicator for the conceptual code “classroom training” recorded the second lowest frequency in the “origins of motivation” row (Table 6.1). Classroom training was familiar to them and they knew what to expect. They were used to getting training in an air-conditioned room with soft chairs, sometimes with snacks and beverages included. Warehouse workers do not have experience of a well-designed e-learning programme which, according to Johnson and Aragon (2001), could include social interaction, student reflection, allow for unique habits and individual differences, and motivate and create a real-life context for the student.

Warehouse workers were not reluctant to work with computers on their own. The warehouse workers that were drafted for ABET training did that in their own allocated training time, three times a week. They were not supported by a facilitator all the time, and coped with the basic computer programs during their ABET activities. The workers indicated that they liked working with computer technology. The theory code “affective experience” for classroom training yielded 213 responses while computer use recorded exactly double that (Table 6.1). The warehouse workers indicated an eagerness to work on computers. I can not refer to it as a preference because I don’t think their knowledge of e-learning was such that they could compare the two options.

The learning styles, preferences and individual differences of the warehouse worker community can be accommodated by improved instructional design (Reeves, 1999). The warehouse workers were not even aware of these advantages of computer-learning strategies, and can not really make a valid comparison to declare that they prefer classroom training. They prefer classroom training because it is the only strategy they know.

To conclude, warehouse workers may be ready for e-learning, even though they have expressed a preference for classroom training in the questionnaires. Their limited knowledge of well-designed computer programs prevented them to make a valid comparison. Their eagerness to learn with

computer technology indicated that they were e-ready to be included in introductory e-learning strategies.

6.3.6 Access to computer technology as origin of motivation

The next finding indicated that warehouse workers would be motivated by computer technology to such an extent that their receptiveness for e-learning may be positively affected.

Reeves (1999) listed origins of motivation as one of the most influential aspects to consider when www learning is planned. The frequency of responses of the conceptual code “encounters with IT” (Table 6.1) relating to motivation were recorded to be as high as 795. Access to computer technology as an origin of motivation affected the warehouse workers extrinsically and intrinsically. The following conceptual codes listed in Table 6.2 refer to the warehouse workers extrinsic behaviours and motivators: encounters with computers, computer use, computer literacy and skills and abilities. The access and ability to work with computers have affected the warehouse workers intrinsically through their attitudes, frustrations, anxieties and learning preferences. All of these conceptual codes recorded high frequencies of responses relating to motivation.

Table 6.1 Warehouse workers motivation as a result of access to computers

<i>Conceptual dimensions of e-readiness</i>										
	Connectivity	Anxiety	Attitude	Computer literacy	Computer use	Encounters with IT	Knowledge of e-learning	Learner frustrations	Learning preferences	Skills and abilities
Organisation	x	567	571	619	712	795	563	582	638	653

Encounters with computers have enormous motivational value for the warehouse workers as indicated in Table 6.1. Extrinsically the exposure to computers affected the way they use computers, it enabled them to get involved in mainframe procedures, taught them how to type, to use the mouse, to click on hyperlinks, to read online instructions and improved their computer literacy overall. It has also affected their skills and abilities to adapt to different ways of computer uses, as was shown in the way they used e-mail and the tutorial observation. Having experienced the ABET classes they have realised that the computer poses a different opportunity for learning, thereby increasing their knowledge of learning with computers.

The motivational effect computers had on the warehouse workers was also indicated by means of the affective motivation they experienced. The access to computer technology affected their attitude, levels of anxiety and frustrations. It appeared that the warehouse workers felt good about using the

computers and that it motivated them in various ways. Almost all of the interviewed participants expressed fervent wishes to be involved with computers on a more regular and extensive basis. Intrinsic motivation was displayed by some of the warehouse workers' urgency to complete their self-driven ABET lessons and expressed the wish to learn more with computers. It has also been mentioned by some that they needed the computers to prepare better futures for themselves.

Frustrations were observed where warehouse workers were struggling with system speed. These frustrations implied that they were easy with the technology and have learnt what to expect from the systems. More intrinsic frustrations were implied by their almost naïve wishes to learn more with computers implying that they were motivated to learn, but needed knowledgeable guidance. They have passed the point where they experience anxiety to the extent that it would prevent them from being involved with computer technology. The warehouse workers have achieved a capacity that sets them up for e-learning opportunities to be explored. It agrees to the view held by Choucri *et al*:

If *access* conditions are in place, then *capacity* considerations come into play. If both access and capacity are in place, then value creation *opportunities* can be pursued. In other words, there can be no viable *opportunity* creation in the absence of access and capacity conditions (Choucri *et al.*, 2003 p. 8)

The motivation that resulted from the access and use of computer technology has developed the capacities of the warehouse workers. To conclude, the warehouse workers were motivated to be challenged on a higher level, and seemed to be motivated and e-ready. Their naïvetè suggested that their capacity should be guided with care, and with empathy. The key to this is in the hands of the organisation.

6.3.7 The organisation holds the final key

My last finding indicated that the warehouse workers' potential can be realised by the organisation only. Fifty percent of the conceptual codes that emerged from the data indicated the dependency of the warehouse workers on the workplace. Table 6.3 illustrates the conceptual codes that imply the responsibility of the organisation.

Table 6.2 Warehouse workers motivation as a result of access to computers

<i>Conceptual dimensions of e-readiness</i>										
	Connectivity	Facilitator	Financial aspects	Guidance & support	Learning plan	Managerial contributions	Organisation culture	Relevance	Time constraints	Viability of e-learning
Organisation	377	421	394	445	414	402	415	451	399	536

The pattern that emerged from the data analysis can be an indication of the warehouse workers' dependency on the e-maturity of the organisation. Access to computer technology provides

opportunities and potential growth in several other fields for the employees. Aspects such as expert advice and guidance can allow employees to achieve short and long term goals. These aspects also include financial support and assistance, informed career guidance and relevant learning plans to realise career objectives. The capacity of the warehouse workers have improved significantly with the provision of access to a computer infrastructure. The opportunity to use this capacity is partially dependent on the management and support of the organisation.

It has emerged from the data that some participants questioned the relevancy and ultimate goals of ABET training. Several of the workers indicated that they do not have formal learning plans in place, while managers stated the opposite. The facilitator needs to be an informed and skilful e-learning practitioner who knows how to conduct thorough needs analyses to ensure instructional design that focuses on the needs of the warehouse workers (Bowles, 2004). The warehouse workers have conceded that they may need guidance and support using computer learning programs. The facilitator and responsible managers or training team will have to be informed and knowledgeable to ensure that relevant training is presented in order to keep the warehouse worker interested and focused to develop their careers. Informed training facilitators may know how to break the learning objectives down into digestible chunks so that the warehouse workers are able to learn according to their individual needs and capabilities.

Financial support and assistance has also been identified to be critical because the warehouse workers do not have the personal financial strengths to finance their own training. Even though the organisation does have financial support and assistance plans in place, it seemed as if it was not clear to the managers when money can be used for training purposes. Organisation budgets seem to make provision for training, but these are not applied for the promotion of self-driven training with computers. Indirectly, the warehouse workers are dependent on informed and knowledgeable training managers who have the ability to structure a financial plan for e-learning. The knowledge of the interviewed managers suggested that they do not know enough of e-learning to realise such training for their staff.

The organisation does not shirk its responsibility to train and prepare their employees. Warehouse workers do have the privilege of six hours training time per week. Most workers have the opportunity to be trained at the company's expense. Although it seems that a culture of learning does exist, it appears that focus and direction is limited. Guidance is not always available in the way that the workers expect. They are dependent on classroom training, and on facilitators to direct their training. It may need a concerted effort between training managers, facilitators and warehouse managers to transform the warehouse workers from passive followers to active initiators. For this to happen, they need opportunity. They already have the basic capacity.

To conclude: warehouse workers are dependent on the organisation to take the decisive steps to transform them to become self-driven e-learners. I concur with the arguments of Macpherson *et al* (2005) and Powell (2000) who found that organisational readiness should be established before the

implementation of e-learning, and that management support is crucial for the success of e-learning. As far as access to computers and the motivation goes, the warehouse workers seem to be e-ready. The organisation, however, lacks the informed expertise of e-learning. Although the e-maturity indicates that the organisation is excellently poised with regard to the necessary infrastructure, the management of e-learning lacks knowledge and expertise. A concerted focus and drive from a knowledgeable training management team is needed.

6.4 Conclusion Executive Summary

With regard to my research question: e-Readiness of warehouse workers: an exploratory study, the following patterns and findings emerged:

- Warehouse workers encounter computer technology to such an extent that they have the experience to be introduced to e-learning
- Warehouse workers do not experience anxiety to such an extent that it prevents them to be involved with computer technology
- Warehouse workers are dependent on knowledgeable e-learning leadership and guidance from the organisation to transform to self-driven learners
- e-Learning is a viable option to the warehouse workers due to available infrastructure and connectivity within the organisation
- Warehouse workers' learning preferences are affected by their experience (encounters) with computers and may eventually contribute to them becoming self-driven learners
- Warehouse workers are motivated by computer technology to such an extent that their receptiveness for e-learning is positively affected
- The organisation holds the key to the e-readiness of the warehouse workers by providing access, finances and time. Knowledgeable guidance and support is needed to realize e-learning.

As employees of a company that strives to be competitive in the global network, the warehouse workers are surrounded with computer technology. This technology has placed them in a position that may prepare them for the challenge of e-learning.

In this chapter I presented a summary of findings and patterns relating to six main theory codes: technical and affective experience, aptitude, motivation, access to infrastructure and organisation culture. The emerging patterns were not clear, therefore I formalised the patterns and findings in table format. The table related the theory codes with an inventory of twenty conceptual codes that were constructed from an inductive analysis of the data – using Atlas.ti™. My executive summary of findings emerged from a close analysis and examination of the collected data. Seven main findings appear to relate to the research question regarding the e-readiness of warehouse workers.

The next chapter will provide an overview of the research, discuss the conclusions, limitations and recommendations.