# e-Readiness of warehouse workers: an exploratory study

by

**Hermanus Barend Moolman**

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**Supervisor: Prof Dr Seugnet Blignaut**

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**Dedication**:
I dedicate this thesis to my family: Isabel, Dorette and Herman.

# Ethics Clearance Document

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| **CLEARANCE CERTIFICATE** | **CLEARANCE NUMBER :** CS07/01 |
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**and has not previously been submitted by me for**
**a degree at this or any other tertiary institution"**

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**Hermanus Barend Moolman**

**Signed on the. . . . . day of . . . . . .2006.**
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## Certificate of Proofreading and Editing

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**AFRIKAANS – ENGLISH SWORN TRANSLATIONS**
+ standard translations – editing - proofreading - indexing

Prof Dr P D DE KOCK
139 Doreen Street
COLBYN
Pretoria
Republic of South Africa
0083

LLD; MA (Libr); APTrans (SATI); PSAIBI
Tel & fax +27 (12) 430 4782
pddekock1@xsinet.co.za

TO WHOM IT MAY CONCERN

PROOFREADING AND EDITING

Herewith I, the undersigned Pieter Daniel de Kock, state that I have read, proofread edited and judged compilation and uniformity of the references as well as the physical layout of the doctoral thesis *e-Readiness of Warehouse Workers: An Exploratory Study* as researched and written by Mister Herman Moolman.

PD de KOCK

1 June 2006

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# Abstract

The purpose of this research was to investigate the e-readiness of warehouse workers in a supply chain management environment. Organisations increasingly contemplate e-learning as a training option to develop their employees. Globalisation of commercial ventures increasingly demands that organisations become more competitive by introducing Information Technology (IT). e-Learning is seen as a stepping stone for empowering employees.

Supply-chain management organisations use unskilled warehouse workers to perform manual duties such as registering, storing and quick location of stock for distribution. IT supports these logistic procedures – emphasising the need to introduce e-learning to warehouse workers. Questionnaires confirmed that the unit of analysis was multi-racial, mostly black, between eighteen and sixty years old and of both genders. Their limited educational qualifications are representative of many similar developing communities of work across Africa.

e-Learning requires access to technology, computer literacy, self-discipline, the drive to develop and the confidence to use technology to achieve objectives. Warehouse workers as developing communities are trapped by the digital divide amidst calls to bridge the divide by introducing IT to such communities. Questions are raised whether they have the discipline, motivation, and skills to learn from such a complex learning strategy. Interviewed corporate learning experts cautioned that specific infrastructures and personal attributes are crucial. Insufficient computer experience, anxiety and technophobia, may cause warehouse workers to become unlikely candidates for e-learning.

My inquiry was an interpretive, qualitative case study, intent on understanding emotional, technical, and social aspects influencing e-readiness. I collected my data in four phases. Phase one was a questionnaire to collect biographical information of the warehouse workers. During phase two, by means of a Delphi technique, I established consensus from a group of e-learning experts of what e-readiness encompasses. Phase three consisted of interviews with and observations of workers performing their daily tasks and also while completing a computer-based tutorial. In phase four I conducted interviews with warehouse managers on their perceptions of the e-readiness of their workers.

From the literature I extracted Reeves' (1999) three learner inputs, as well as six fundamental categories of e-readiness. With these nine theory codes, I followed an inductive-deductive grounded theory approach to analyse the data. I constructed six sub-questions as basis for the enquiry. I tallied the frequencies of the conceptual codes of e-readiness and created an inventory of applicable conceptual codes according to the theory codes. Patterns of technical and affective experience, aptitude, origins of motivation, access to computer infrastructure and organisation culture culminated as my seven main findings on the e-readiness of warehouse workers. I determined inter alia that warehouse workers do not suffer from technophobia, nor are they really intimidated by technology.

However, they need guidance and expert facilitation to become successful e-learners. They are aware that they are dependent on the organisation's infrastructure to develop their skills and capabilities. Therefore, the e-maturity of an organisation can greatly benefit from warehouse workers' involvement in e-learning.

**Keywords:**

Warehouse workers
e-readiness
developing communities
digital divide
computer experience
access to technology
technophobia
motivation
organisation-dependent
e-maturity

# List of Abbreviations

| | |
|---|---|
| ABET | Adult Basic Education and training |
| APEC | Asian Pacific Economic Cooperation |
| ASTD | American Society for Training and Development |
| ATM | Automatic teller machine |
| Becta | British Educational Communications and Technology Agency |
| CAT | Computer assisted training |
| CAQDAS | Computer assisted qualitative data analysis system (Atlas.ti™) |
| CBT | Computer based training |
| CI | Community Informatics |
| CID | Centre for Information Development |
| CSPP | Computer Systems Policy Project |
| CTI | Computer Training Institute |
| DC | Distribution Centre |
| DOT Force | Digital Opportunity Task Force |
| EKP | Enterprise Knowledge Platform® |
| EBMS | Electronic Business Management System |
| GCI | Growth Competitiveness Index |
| HR | Human Resources |
| ICT | Information and Communication Technology |
| IDP | Individual development plan |
| IHD | International Healthcare Distributors |
| IKS | Indigenous Knowledge System |
| ILS | Instructor led systems |
| ILT | Instructor led training |
| IS | Information Systems |
| IT | Information Technology |
| NEPAD | New Partnership for African Development |
| NZCER | New Zealand Council for Educational Research |
| PC | Personal Computer |
| SA | South Africa |
| SAPICS | Professional Society for Supply Chain Management |
| SC | Supply Chain |
| SCM | Supply Chain Management |
| SME | Subject Matter Experts |
| SOP | Standard operating procedures |
| UCT | University of Cape Town |
| UNISA | University of South Africa |

| | |
|---|---|
| WBT | Web based training |
| WEF | World Economic Forum |
| WITSA | World Information Technology and Services Alliance |
| www | World wide web |

**Definitions**

| | |
|---|---|
| ABET | Adult Basic Education and training programme by Mediaworks used as a training tool to develop the education of learners in developing countries. Can be done online or by completing exercises in assignment books. Includes literacy and numeracy programmes |
| Atlas.ti™ | Qualitative data analysis system |
| ATM | Automatic teller machine |
| CBT | Computer based training lessons that enable learners to learn with computer technology |
| DC | Distribution centre – remote warehouses belonging to the organisation to serve other regions of the country |
| Delta | The Delta system is the customized application designed and developed to manage all the logistics procedures of IHD |
| Digital Divide | The technological difference between developed and developing countries and communities |
| EBMS | Electronic Business Management System – an interactive, online facility available on the organisation intranet. It explains all the business procedures by means of flow diagrams and interactive explanations. Staff are expected to follow these guidelines to execute the business procedures |
| EKP | Enterprise Knowledge Platform (EKP) is a series of e-learning lessons from Laraghskills® that are available to all aspiring employees |
| IDP | Individual development plans – initiative from the South African Departments of Labour and Education to ensure that employee skills are developed at work. It entails a formal “development plan” to structure the training and learning of the employee |
| IHD Warehouse | The warehouse where the pharmaceutical goods are stored and picked to be delivered to customers |
| Internet | The electronic information network available across the world |
| Intranet | The electronic information network within the organisation – available to all employees |
| Mainframe system | The Delta system, a customized electronic application designed and developed to manage all the logistics procedures of IHD |

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|---|---|
| MS Outlook® | Microsoft Outlook® e-mail application |
| Warehouse worker | The employees of the SCM industry responsible for the receiving, packing, and dispatching of goods |
| Web based | Applications or training that relate to the world wide web (www) |