



School of Management
Blekinge Institute of Technology

How External Forces are influencing the E-business strategy of MTN-Nigeria

Adesina Adeleke

Supervisor: Eva Wittbom

Thesis for the Master's degree in Business Administration
Fall 2008

Abstract

The Internet and e-business has had enormous impact on many companies in Nigeria and there has been much research on how e-business influences the environment, but little can be found on how the environment of a developing country like Nigeria influences e-business. In e-business, technology tells the business what can be done in smarter ways. Technology not only can make business more efficient but also can make business more effective in targeting and reaching markets, however technology cannot enhance business in isolation as there are other vital factors that equally impact business.

This thesis presents an adapted version of the PESTEL (Political, Economic, Socio cultural, Technology, Environment, and Legal) framework so called e-business PESTEL framework, as a method for structural analysis of macro environment forces in the future. In addition to this PESTEL framework, the Porter's five forces model was employed to analyse the industrial forces that also influence MTNN e-business strategy. The main goal of this research is to give an overview of industry and macro-environment forces influencing the e-business strategy MTN-Nigeria and the impact of future developments. The research methodology was explorative and descriptive.

A further method for future analysis of the macro-environments influences and a suggestion on how to incorporate it in this research work is given. The e-business strategy of MTNN consists of four areas: E-procurement, E-collaboration (CRM), Supply chain management and E-commerce. The influences found on macro-environments level are political and sociocultural forces and in the industry levels are bargaining power of customers and suppliers of its products and services .The most recommendations are that MTN-Nigeria should add e-business PESTEL framework described in this thesis to its e-business strategy check. Furthermore MTNN should include environment analysis more extensively in their e-business strategy approach as the factors in this research work shape the environment in which it carries out its business.

Acknowledgements

I am grateful to God for the completion of this rigorous and quite tasking MBA programme. I wish to acknowledge the contributions of my families, friends and classmates throughout the period of the MBA programme and especially during this research work.

I am grateful to my supervisor Eva Wittbom for all of her support, guardianship and kind responses to all of my requests and especially for believing in me and this work. I am grateful to Klaus Solberg Söilen for the guidance provided on this work – especially the video lectures. I am grateful to Vernimmen P. for his newsletters transmitted to us electronically and to Pereiro L. E., whose previous researches made mine a lot easier.

Thanks to all the participants who responded to my survey and interviews in MTNN and to Dele Ogundele and Segun Temi for helping with the ground work done in Nigeria and in collecting our questionnaires. You were indispensable.

It will be a crime to forget my wife, Voke Adeleke who had been extremely very supportive of this work. I am indeed very grateful.

Adesina,

April 2009

TABLE OF CONTENTS

LIST OF ABBREVIATIONS	7
Chapter 1	8
1. Introduction	8
1.1 Research Background	8
1.2 Research Environment	8
1.2.1 MTN Group Limited.....	8
1.2.2 MTN Nigeria	9
1.2.3 Operational review	9
1.2.4 MTN Nigeria and e-business.....	10
1.3 Research Objective.....	12
1.4 Scope of Research	12
1.5 Organisation of thesis	12
Chapter 2.....	14
2 Literature review	14
2.1 E-business and electronic commerce.....	14
2.1.1 Definition	14
2.1.2 Development and trends of e-business	15
2.2 Strategic Analysis	16
2.2.1 Industry analysis	16
2.2.2 Macro-environment analysis.....	17
2.3 E-business macro-environment	18
2.3.1 Political factors	18
2.3.2 Economic factors.....	20
2.3.3 Sociocultural factors.....	22
2.3.4 Technological factors	26
2.3.5 Environmental factors	27
2.3.6 Legal factors.....	28
Chapter 3.....	31
3 RESEARCH METHOD	31
3.1 Research strategy.....	31
3.2 Research approach.....	31
3.3 Analysis of survey data	32
Chapter 4.....	33
4 Research Results and analysis.....	33
4.1 DATA REPRESENTATION	33
4.1.1 Interviews	34
Political forces	34
Economic forces	35
Technology forces.....	35
Sociocultural forces	36
Environmental forces.....	36
Legal forces	37
4.2 E – business strategy check Methodology	38
4.2.1 E-procurement.....	38
4.2.1.1 Opportunities for e-procurement	39
4.2.1.2 Threats for e-procurement	39

4.2.2	E-collaboration.....	40
4.2.2.1	Opportunities for e-collaboration	41
4.2.2.2	Threats for e-collaboration	41
4.2.3	Supply chain management	42
4.2.3.1	Opportunities for Supply chain management.....	43
4.2.3.2	Threats for Supply chain management	43
4.2.4	E-commerce.....	43
4.2.4.1	Opportunities for the E-commerce	44
4.2.4.2	Threats for E-commerce	45
4.3	Industry description	46
4.3.1	Competitor rivalry	46
4.3.2	Barriers of entry	48
4.3.3	Bargaining power of customers.....	49
4.3.4	Bargaining power of suppliers.....	50
4.3.5	Threats of substitution	50
4.3.6	Market and industry developments	50
Chapter 5	.....	52
5	Recommendations and Conclusions.....	52
5.1	Conclusions	52
5.2	Recommendations	55
References	.....	58
Appendix A	.....	61
Appendix B	.....	62
Appendix C	.....	63
Appendix D	.....	66
Appendix E	.....	73

LIST OF TABLES

Table 1 Different perceptions of trust of stakeholders	25
Table 2 Macro-environment forces found in literature	30
Table 3 Proposed e-business PESTEL framework.....	52
Table 4 Most important opportunities and threats	54

LIST OF FIGURES

Figure 1 MTNN Strategic path 11

Figure 2 Porters 5-forces framework Porter (2008) 17

Figure 3 Three phases of net investment 22

Figure 4 Stakeholders involved with online trust..... 24

Figure 5 Forces Correlation 42

Figure 6 Comparison of MTNN and competitors Internet site 47

Figure 7 Gartner's Hype Cycle 63

LIST OF ABBREVIATIONS

E-business	Electronic Business
EBITDA	Earnings before interest, taxes, depreciation and amortization
XML	eXtensible Markup Language
GSM	Global System for Mobile communications
ERP	Enterprise resource planning
EDI	Electronic Data Interface
SOAP	Simple Object Access Protocol
Http	Hypertext transfer protocol
ASP	Application Service Provider
OECD	Organisation for Economic Cooperation and Development
MTNN	MTN Nigeria
MTN SA	MTN South Africa
MTN A	MTN Afghanistan
UBA	United Bank of Africa
I&S	Industrial Solutions and Services
AOL	America Online
PESTEL	Political,Economic,Sociocultural,Technology,Environment,Legal

Chapter 1

1. Introduction

This chapter introduces background research carried out and the research problem which has been the driver of this research. The scope of the research is given as well as the research objective and an overview of the organization of this thesis.

1.1 Research Background

The impact of e-business on the world is nothing short of revolutionary. E-business has changed the world and the e-business revolution is far from over. However in most developing countries it is just getting started.

Common and critical success factors for e-business implementation in Nigeria include fulfilling the needs e-business users, the users having sufficient means (financial resources) to make use of the services, availability of necessary equipment and infrastructure in relation to the physical and geographical environment, wide accessibility for sufficient number of users and the target group which should have sufficient know-how to make use of the services (Banji, 2004).

Nigeria needs competitive advantage in the global market to remain relevant, knowledge-based economy; however it is still struggling to stand out in Africa. Since Nigeria has joined the knowledge economy train harnessing of electronic Technology for meeting the information needs of a business at all levels. Information technology will remain one important driver of our lives for the better part of this century; which is why every professional and user of technology needs to pay more than a casual attention to the road ahead. According to Akano (2007) the seven major IT issues which will continue to affect our lives for good or bad in the nearest future include: Strategy, information security, management, technology, local content, IT, human resource and IT education.

The main goal of this research is to look into the impact of industry and macro-environment forces on the e-business strategy of MTNN, hence a brief description of the organization in which the research was conducted and MTNN's e-business strategy is described and discussed below.

In Nigeria, there are currently only 3 major players in the GSM telecommunications industry – Celtel, Globacom and MTN inclusive being the largest GSM network in Nigeria. MTN-Nigeria has been a catalyst to Nigeria's economic growth and development, making it one of the most successful e-business practitioners and leaders in Nigeria. MTNN's e-business strategy which consists of four areas: E-procurement, E-collaboration (CRM), Supply chain management and E-commerce has earned it a reliable return in the company's first five years. However there are factors that have begun to reshape MTN-e-business strategy and its gain.

1.2 Research Environment

1.2.1 MTN Group Limited

The MTN Group has almost 15 000 employees across 21 operations, and their success in telecommunication is attributable to the depth and quality of their people. A large number of their employees are employed in its origin country South Africa (SA). MTN Group Limited delivered a strong performance, increasing subscribers by 53% to 61,4 million in the 12 months to 31 December 2007. This reflects the significant opportunities for growth in the Group's expanded footprint. Subscribers in

the South and East Africa region (SEA) increased by 23% to 19 million, in the West and Central Africa (ICA) region by 43% to 28 million and the Middle East and North Africa (MENA) region recorded a 186% increase to 14 million, driven by the very strong growth of MTN Iran cell. Average revenue per user (ARPU) has declined marginally in most operations, consistent with increased penetration into lower segments of each market (Alade, 2001).

The corporate structure of MTN Group is given appendix A, where the circle identifies MTNN, in which this case study was conducted.

1.2.2 MTN Nigeria

MTN Nigeria is a GSM Telecommunications company which started in August 2001. It belongs to West and Central Africa region of the MTN Group Limited.

The population of Nigeria is currently about 140 million people. MTN Nigeria currently has about 20 million subscribers which is about 14.3% of the Nigerian population.

Since launch in August 2001, MTN has steadily deployed its services across Nigeria. It now provides services in 223 cities and towns, more than 10,000 villages and communities and a growing number of highways across the country, spanning the 36 states of the Nigeria and the Federal Capital Territory, Abuja. Many of these villages and communities are being connected to the world of telecommunications for the first time ever.

1.2.3 Operational review

West and Central Africa (ICA)

The ICA region now provides the highest absolute EBITDA contribution to the Group and revenue levels similar to the SEA region. Subscribers increased from 19,6 million to approximately 28 million in increasingly competitive markets. The year 2007 was characterised by accelerated network roll out to address capacity and quality constraints, particularly in Nigeria and Ghana.

Nigeria remains the major contributor in the ICA region, increasing subscribers by over 4 million to 16,5 million. Ghana and Côte d'Ivoire delivered strong performances, growing the number of subscribers by 1,4 million and 1,1 million respectively. Cameroon increased subscribers by 776 000 to 2,6 million, despite the impact of the numbering change plan in the first half of the year. Benin recovered well and ended the year with positive growth following the suspension of the network on the orders of the regulator between July 2007 and September 2007 (Daniel, 2008).

1.2.4 MTN Nigeria and e-business

MTN-Nigeria has a clear vision which states that “To be a catalyst for Nigeria’s economic growth and development, helping to unleash Nigeria’s strong developmental potential not only through the provision of world class communications but also through innovative and sustainable corporate social responsibility initiatives.”

MTN-Nigeria has set four specific objectives regarding e-business:

- To become the reference company for customer service in Nigeria
- Create an enabling culture to build leadership/employee commitment to customer centricity
- Winning the customer trust by putting the customer at the heart of what they do

MTN-Nigeria plan to achieve aforementioned objectives by focussing on three main elements:

- To facilitate the implementation of a “customer centric” approach across all the departments of MTN Nigeria.
- To create a distinctive level of customer service based on understanding the needs and expectations of customers.
- To place the customers and the customer facing areas at the core of the company with the rest of the areas supporting them

Figure 1 below displays a schematic diagram of MTNN strategic path

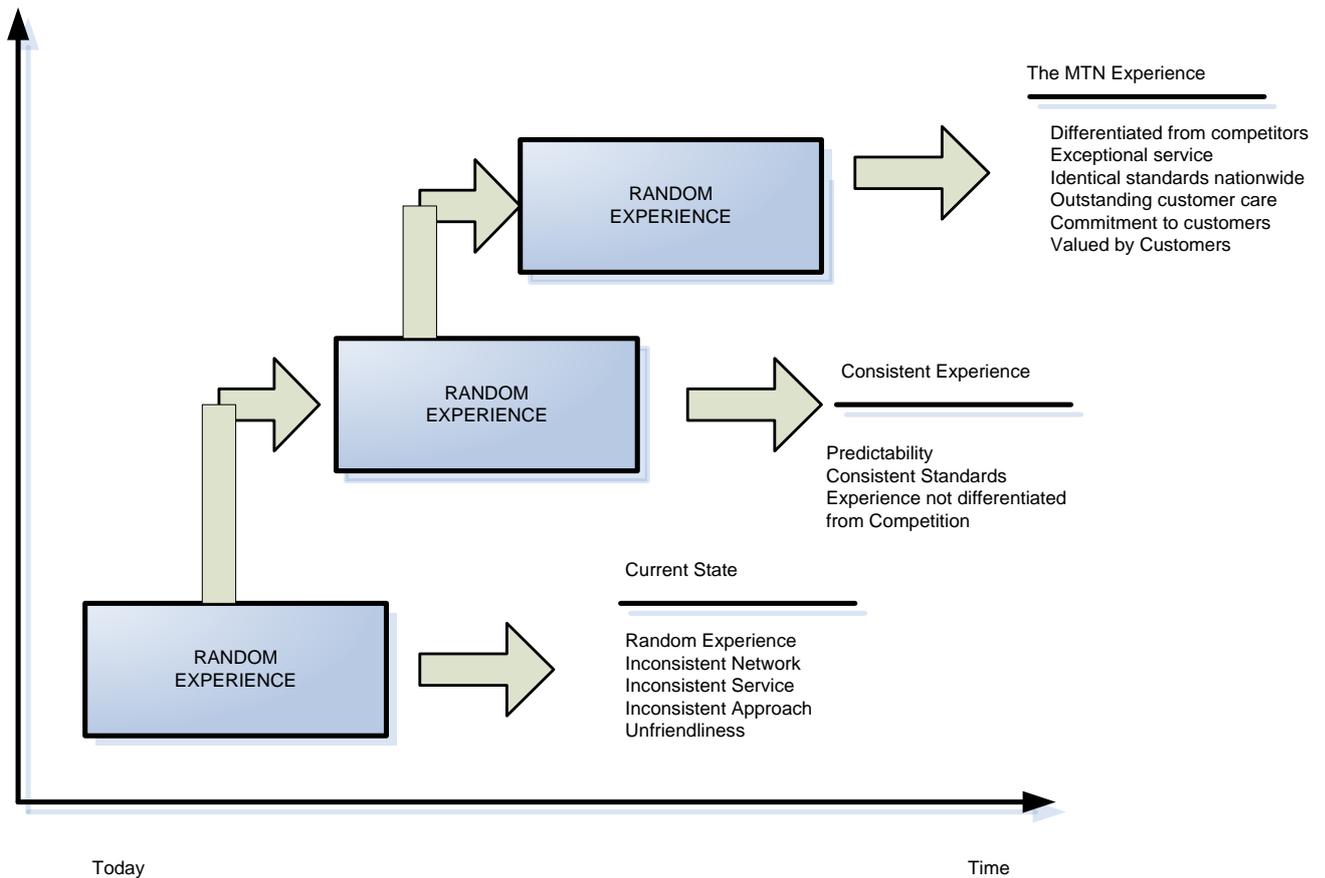


Figure 1 MTNN Strategic path
Johnson(2005) MTN-Nigeria Communication Limited

The MTN Group Limited make their largest revenue from MTNN in Africa, hence MTNN is constantly investing in Nigeria and its e-business strategy to achieve a solid e-business infrastructure, however the roadmap has not been smooth for MTNN e-business projects due to forces mostly outside the organisation which include education, social infrastructures, state of technology and a host of other external major issues which would be addressed and described in the course of this work.

In line with the positioning school of Porter (2001), which states the importance of external analysis, this research deepens the understanding of the specific situation prevailing in Nigeria and looks into the macro-environment and industry analysis which are the starting points to determine the opportunities and threats for an organization.

Therefore MTNN requires, improving their e-business strategy by critically looking at the external forces influencing their strategy in Nigeria. This has brought about the research objective below:

1.3 Research Objective

The main focus of this thesis is to answer the question:

Which external forces influence the e-business strategy of MTN-Nigeria and how can future developments of these forces be assessed?

This research problem addresses the initial explorative analysis on which forces influence the current e-business strategy of MTN-Nigeria, in which a clear distinction can be made between macro-environment forces, on which the organisation has no control of and industry forces on a micro-level which can be partially influenced by the organisation.

The main research problem above is further broken down into the following research questions

1. Which external forces influence the e-business strategy of MTN-Nigeria?
2. To what degree does each of the external forces influence MTN-Nigeria?
3. What is the current business and e-business strategy at MTN-Nigeria?
4. How will the strategy be affected by these changes mentioned in question 2 above?
5. How is the outlook for the future developments of these forces from MTNN perspective?
6. How do my findings correspond with existing theory in the field?
7. What may explain the discrepancies between theory and reality?
8. How can the company respond to these effects?

1.4 Scope of Research

The scope of the research is restricted to research questions listed above. MTN Nigeria has been chosen as a case study for the research, as it is a popular company that has not only embraced e-business but has a pronounced e-business strategy worthy of this research. The research focuses mainly on external influences to MTNN however few of the external forces that would be described relate to internal influences, where mentioned they are regarded as important as the two set of forces sometimes cannot be separated.

MTN Nigeria is part of the MTN Group, Africa's leading cellular telecommunications company. On May 16, 2001, MTN became the first GSM network to make a call following the globally lauded Nigerian GSM auction conducted by the Nigerian Communications Commission.

MTNN's overriding mission is to be a catalyst for Nigeria's economic growth and development, helping to unleash Nigeria's strong developmental potential not only through the provision of world class communications but also through innovative and sustainable corporate social responsibility initiatives(Alade,2001).

1.5 Organisation of thesis

This report is divided into five chapters comprised Introduction, Literature Review, Research Methods, Research findings and Discussion of research results, Recommendation and Conclusion. These are featured in the thesis as follows:

Chapter One – Introduction

Chapter two – Literature review

Chapter three – Research Methods

Chapter four – Research Results

Chapter five – Discussions of research results, Recommendations and Conclusions

In summary:

Chapter 1 gave an introduction to the research, research objective, the scope of the research and an organization of the report. It also gave a description of the organization in which the research was conducted. MTN-Nigeria e-business strategy was described and discussed in this chapter.

Chapter 2 gives an overview of the past research work on the role of internet and e-business in Nigerian companies as well as a background information required for the understanding of PESTEL framework and Porter's five forces model and their respective impacts on MTN Nigeria e-business.

Chapter three describes the research methodologies as explorative and descriptive. An explorative method is employed as no research has been done as regards the influence of a macro environment and industry forces on the e-business strategy adopted by MTNN. The descriptive approach would involve describing the effect of a macro environment and industry forces on the e-business strategy of MTNN.

Chapter four presents and describes the results obtained from the research on the implementation of the methods described in chapter three. These results include the gathered data and interviews conducted.

Chapter five discusses the results obtained from the research work and gives conclusions as well as recommendations for MTN-Nigeria e-business. This chapter also gives some direction into further research unachievable in this work.

Chapter 2

2 Literature review

The literature review in this chapter gives background explanations of the elements of the research work such as role of internet and e-business in Nigerian companies as well as background information required for the understanding of PESTEL framework and Porter's five forces model. This is also an overview of literature and past research work in related areas which provide a premise for this current research.

2.1 E-business and electronic commerce

The arrival and growth of the Internet has forced companies worldwide to respond in an unprecedented manner. After several years of extreme opportunism, uncertainty and fear, the challenge has only just begun. The Internet is here to stay - that is clear (Efem, 2007). The question is how it can be used in such a manner that it helps the organization keep its competitive advantage. This section will describe some of the many insights on e-business and e-commerce of the last years as well as give the definition of e-business that is used during this research.

2.1.1 Definition

E-business is a young field of research in the Nigeria society; the media has paid enormous amount of attention to the subject, yet it has not always been very clear what e-business means. Various definitions can be found in popular and scientific literature emanating from a global perspective.

- E-business (electronic business), derived from such terms as "e-mail" and "e-commerce," is the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners. (Whatis.com, 2002).
- E-business is the use of Internet technologies to improve and transform key business processes. (IBM, 2000).
- E-business is the complex fusion of business processes, enterprise applications, and organizational structure necessary to create a high performance business model. (Kalakota and Robinson, 2001).
- E-business is the use of the Internet and other digital technology for organizational communication and coordination and the management of the firm. (Laudon and Laudon, 2001)
- E-business: Is any Internet initiative tactical or strategic that transforms business relationships, whether those relationships be business-to-consumer, business-to-business, intrabusiness, or even consumer-to-consumer. E-business is really a way to drive efficiencies, speed, innovation, and new value creation in an organization. (Hartman, Sifonis and Kador, 2000).

It is important to note that e-business is much more than electronic commerce. E-business involves changing the way a traditional enterprise operates, the way its physical and electronic business processes are handled, and the way people work. (El-Sawy, 2001)

An assessment of these definitions, most of them talk about the use of Internet or Internet technologies to improve internal and external processes. Therefore the definition used in this research for e-business is:

Electronic business is the transformation of the spectrum of business processes using technology. It includes: Enterprise Resource Planning, Supply Chain Management, Workflow and document management, Process reengineering and knowledge management, Web-based processes and customer relations management.(Spring,2001).

In order to give an overview of the different processes which can be involved in e-business, Porter's value chain (Porter, 1985) can be used. Van Hooft and Stegle have placed different e-business technologies in this framework to give an insight into the reach of these technologies in the value creating activities of the firm (Floris,Hooft and Robert,2001). Some of the important terms in framework are described in the e-business value chain below.

E-business value chain

The e-business value chain consist of e-business technologies, methods and practices such as collaborative engineering, web portals, supply chain management(SCM),e-procurement,e-fulfillment,web market places, Customer relationship Management(CRM) and so on, this is gives a basic good impression of the broad field of e-business. The important thing to identify about the e-business value chain is that the applications aforementioned are not bounded in the functional framework of an organization, but 'break the walls' by linking the different parts of the value chain in a real-time environment, in which there is no place for functional thinking. This implies that e-business is not only implementing technology, but a cultural change in the way people are working together. This cultural change is something that has to be implemented both inside the company and in relationships with customers and suppliers (Van Hooft and Stegle, 2001).

2.1.2 Development and trends of e-business

The previous sections looked into the definition of e-business and why companies would conduct e-business. The goal of this research is to look at the future e-business strategy (by looking at external influences) therefore it is logical to look what literature says about this future development of e-business in general. The Gartner Group, one of the leading research companies on IT and technology, has developed the concept of the 'Hype Cycle' which gives a prediction of the development of e-business. Appendix C shows this hype cycle applied to e-business.

The important conclusion of this model is the 'trough of disillusionment' at the moment, which makes it difficult to find sponsors for e-business because of the negative feeling toward the topic. This is due to the disillusionment people have after the dot-com shake-out, the feeling that e-business is dead. Another important conclusion is that in about five years e-business will be integrated into business and will be seen as a normal process. This is where e-business as a specialized topic will end. Appendix C described the hype cycle in more detail and also gives Garter's emerging technologies and trends hype cycle.

This concludes the introduction to e-business. E-business has been unravelled, why companies conduct e-business has been explained and how e-business is expected to develop in the next years has been briefed. The following section will describe the field of strategic analysis, of which standard frameworks will be used to assess the impact of macro-environment and industry forces on the e-business strategy of MTNN.

2.2 Strategic Analysis

This section will describe research on strategic analysis as found in the literature, which will be used as a framework for analyzing the impact of macro-environment and industry forces on the e-business strategy of MTNN. According to Porter (1980) and Porter and Millar (1985), a firm develops its business strategies in order to obtain competitive advantage (i.e. increase profits) over its competitors.

Johnson and Scholes (2002) state that strategy can be seen as the matching of the resources and activities of an organization to the environment in which it operates. The former talks more about the goal of strategy making, the latter of how it can be done, which indicates that the organization must know their environment in order to make the 'match'. Literature on strategy suggests that with strategic analysis the researcher has to look at both the inside and the outside of the firm. Within the firm there are resources, competencies and core competencies available to an organization. The environment of the firm can be split up in the industry in which the organization is operating and the macro-environment (Johnson and Scholes, 2002). The scope of this research is the forces outside the firm, therefore the internal analysis techniques will not be discussed but left for further research work.

Primarily, there are three strategies firms used to create competitive advantage: overall cost leadership, differentiation, and focus. An overall cost leadership strategy attempts to offer the lowest cost product or service to customers relative to a firm's rivals. This is built on the efficient management of the entire value chain, where cost must be rigorously controlled from raw material purchases to distribution channel delivery. A differentiation strategy positions a company to compete on the uniqueness and value of its products and services. Well-known brand image, a strong reputation and quality products and services are the characteristics of a differentiation strategy. A focus strategy is used by companies to position themselves in a market niche. In their particular niche they create competitive advantage over rivals through either cost leadership or differentiation tactics (Lumpin, Scott and Gregory, 2002).

For differentiators cost control is also important, they have to keep a level of cost parity or proximity relative to competitors. Differentiators do this by reducing costs in all areas that do not affect differentiation. Differentiators may gain distinct advantages through Internet strategies by providing highly tailored customer management systems to enhance sales efforts, provide rapid feedback to customers and suppliers, and give real-time solutions to service problems. The advantage of differentiation is that firms employing differentiators can create capabilities so specialized for a given customer, that the change of customers turning to other solution providers, whether imitations or substitutes, is greatly lessened (Lumpin, Scott and Gregory, 2002).

2.2.1 Industry analysis

The industry is defined as a group of firms producing the same principal product' (Johnson and Scholes, 2002). An often mentioned way to analyze an industry is the five-force analysis of Porter (Porter, 1980). In 1980 Porter described in his book *Competitive Strategy* a structured method to analyze the overall attractiveness of an industry, which made the link between strategic management and the economic theories of industrial organization. This method states that this overall attractiveness of an industry is determined by five underlying forces of competition: the intensity of rivalry among existing competitors, the barriers of entry for new competitors, the threat of substitute products or services, the bargaining power of suppliers, and the bargaining power of buyers. This framework is given in figure 2.2.

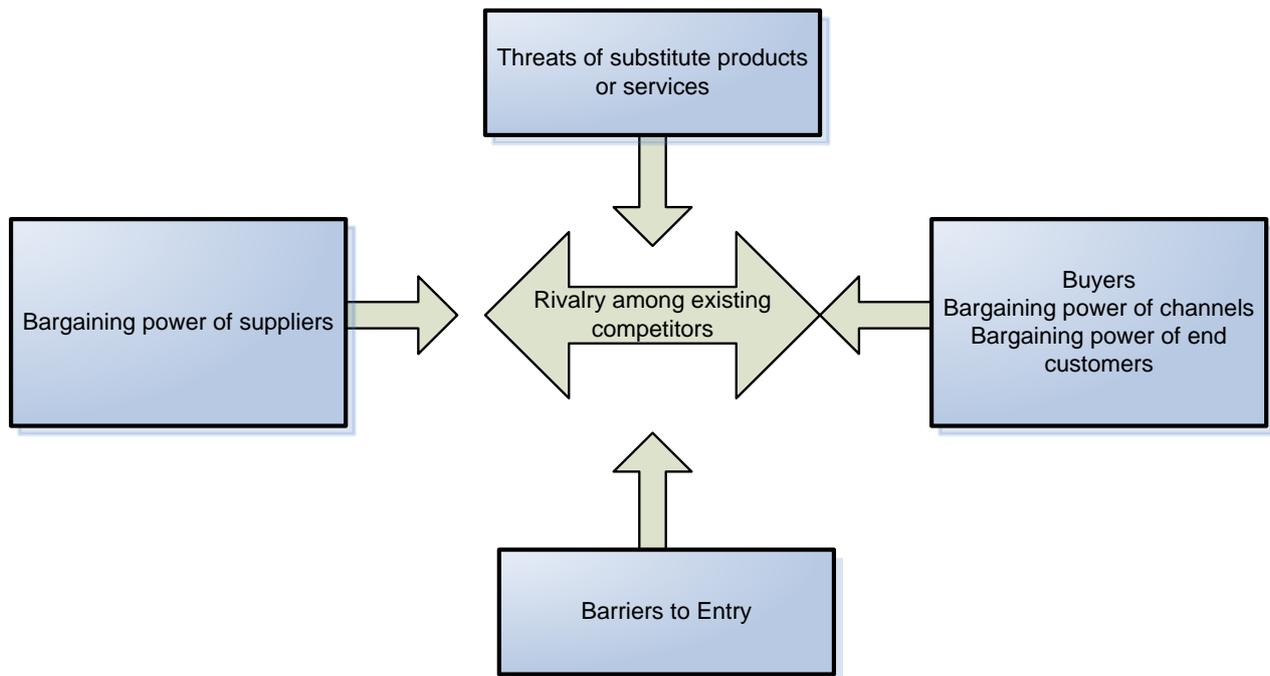


Figure 2 Porter's 5-forces framework Porter (2008)

Johnson and Scholes say about Porter's five forces analysis that it must be used at the level of strategic business units; it should not be used to just give a snapshot in time, but to understand how the forces can be countered and overcome in the future. When analyzing the barriers of entry one can look at the capital requirements for entry, the needed experience, the legal constraints and the importance of brand name. When analyzing the bargaining power of buyers and suppliers one can look at the concentration of buyers and suppliers, the availability of alternative sources of supply for customers (how many other suppliers are there?), and the threats for forward or backward integration. Competitive rivalry is affected by the number of competitors in a market, the extent to which competitors are in balance and exit barriers (Johnson and Scholes, 2002). According to Porter (2001) in his article "Strategy and the Internet", he was not so positive of the advantages of the Internet. He argues that the internet is not necessarily a blessing. It tends to alter industry structures in ways that dampen the overall profitability, and it has a levelling effect on business practices, reducing the ability of any company to establish an operational advantage that can be sustained.

2.2.2 Macro-environment analysis

The general (or macro) environment is that part of the business environment which includes everything outside the organization and it comprises conditions that may affect the organization but whose relevance seems to be latent. It includes political, economic, social cultural, technological, environmental and logical factors. These factors would be described in the section below. Scanning of these factors is essential for an industry to build a sustainable competitive advantage in a dynamic environment.

Consideration must also be given to situational factors when designing a business strategy in order to be able to identify the weakest and strongest environmental forces, which may have a positive or negative impact on the business.

The environment of an organization in business is described by Andrews as "the pattern of all the external conditions and influences that affect its life and development" page 47(Minzberg and Quinn, 1992). For the analysis for the macro-environment Johnson and Scholes suggest the PESTEL framework, which is used to categorize environmental influences into six main types: political, economical, social, technological, environmental and legal. This method will also be described in the section below.

The PESTEL framework provides a summary of some of the questions to be asked about key forces at work in the macro-environment (Johnson and Scholes, 2002). Political factors are government stability, taxation policy, foreign trade regulations and social welfare policies. Economic factors are business cycles, GNP trends, interest rates, money supply, inflation, unemployment and disposable income. Sociocultural factors are population demographics, income distribution, social mobility, lifestyle changes, attitudes towards work and leisure, consumerism and levels of education. Technological factors are government spending on research, government and industry focus and technological effort, new discoveries/development, speed of technology transfer and rates of obsolescence. Environmental factors are environmental protection laws, waste disposal and energy consumption. Legal factors are monopolies legislation, employment law, health and safety and product safety regulations.

A first look at this overview raises the thought in which way these influences have impact on the e-business strategy. Johnson and Scholes state that the importance of these factors will differ for different organizations. In order to define the macro-analysis for the e-business strategy each of the six forces of the PESTEL framework will be reviewed with found literature in section 2.3. As indicated by research question seven -"What may explain the discrepancies between theory and reality? " This research will try to formulate a method to periodically analyze the macro-environment for e-business, of which an adapted version of the PESTEL framework for e-business could be a part. This will be discussed in chapter five.

2.3 E-business macro-environment

With the PESTEL framework as guide this section will analyze academic and popular literature and websites in order to identify macro-environment forces which influence the e-business strategy.

2.3.1 Political factors

Jarvenpaa and Tiller (1999) argue that technology and management strategy choices are increasingly tied to the political, social and regulatory environment in which e-business finds itself. They quote Steve Case, Chairman of AOL:

"I believe over the next few years the future of the Internet will be determined more by policy choices than technology choices." (Jarvenpaa and Tiller, 1999). This indicates that there is an important influence of politics on the e-business strategy of organizations. The PESTEL framework as described by Johnson and Scholes suggest an assessment of government stability, taxation policy, foreign trade regulations and social welfare policies. Below the first three are looked into for e-business, the latter one is not taken into account because of the low perceived impact on e-business. One point that is

taken into account which is not mentioned in the PESTEL framework of Johnson and Scholes is the government attitude towards a development, in this case e-business; as government role in e-business activities was initially unrequired; the e-business activities were left in the hands of the IT industry. However with the presence of pros and cons of e-business activities in any society, government role and policies have become relevant in e-business.

Government stability

A look at government stability, it is easy to understand the impact on a 'normal' business strategy, especially with a lot of important customers in less stable regions like the northern parts of Nigeria, this is an important topic. Government instability influences the possibilities to implement an e-business strategy (Oyebisi, 2003). This can be the result of changing legal frameworks, trade policies, privacy regulations etc. Therefore government stability will be seen as an underlying force that influences other macro-environment forces.

Taxation policy

Taxation policy on the other hand, is a hot topic in discussions on e-business. Due to the nature of the Internet, which allows for example somebody in the USA to sell something to all other countries, it is very difficult to determine under which tax jurisdictions, a product or service should be regarded, e-business is in nature multi-jurisdictional. This is especially the case with the real e-companies, who can exist without global constraints and sometimes even without a physical presence. These organizations are the 'born global' firms (Frecknall and Keith, 2001).

The Organisation for Economic Co-operation and Development (OECD) gives principles which should guide governments in their approach to e-commerce. This is done with the Taxation Framework Condition - agreed in Ottawa in 1998 - which states that e-commerce should be treated in a similar way to traditional commerce and emphasizes the need to avoid any discriminatory treatment. This Framework was welcomed by member countries, non-member economies, and the business community.

The Lagos Association of Licenced Telecommunications is also addressing the issues around taxation policy, but this addresses currently only B2C transactions. The Lagos Association of Licenced Telecommunications Operators of Nigeria, (ALTON), has told a Federal High Court sitting in Lagos, that charges imposed on telecoms companies in Lagos, under the Lagos Infrastructure Maintenance and Regulatory Agency (LIMRA) Law, which ranges between N400 million and one billion amounted to taxation. The proposal is currently requesting the court to invalidate the law against Telecommunications Operators in Nigeria (Frances, 2006).

Foreign trade regulations

With foreign trade regulations a problem at the heart of e-commerce trade comes to the surface, that is, the definition of goods and services. If a book is ordered online, but is delivered physically, there is general agreement that, for the purposes of international trade rules, it is a good. That makes it subject to the international rules for trade in goods, the GATT (General Agreement on Tariffs and Trade). However, if the book is delivered electronically - downloaded onto the computer of the customer - there is no agreement whether this digital product should be treated as a good under the rules of the GATT, or as a service, which would make it subject to a GATS (General Agreement on Trade in Services) regime.

Not a trivial distinction, since there are important differences between the rules covering goods and services, including the type of market access granted and non-discrimination between national and foreign suppliers. For example, discrimination against foreign suppliers is, in general, forbidden for trade in goods, but not for trade in services. The status of these e-products is as yet to be agreed by member governments in the WTO (Lumpin, Scott and Gregory, 2002).

Due to the nature of the business of MTNN, they work with products as well as services, integrated in solutions, which makes it very important to take into account under which rules MTNN is working. Due to the experience of MTNN with international projects, not too much problems are expected with these trade regulations.

Government attitude towards e-business

The acceptance and promotion of e-business by a government can give it a good impulse, thereby helping turning the negative attitude given by the de-hype. The notable professional bodies in the IT industry in Nigeria are the Computer Association of Nigeria (COAN), Nigerian Information Technology Development Agency (NITDA), Institute of Software Practitioners of Nigeria (ISPON) and Information Technology Association of Nigeria (ITAN). The bodies comprise highly qualified personnel whose ambition is to land Nigeria into the IT world. They have been organizing workshops and trainings to initiate the government, firms and private individuals into the importance of IT. They have written series of recommendations to the Federal, State and Local governments on the need to formulate a policy on IT in Nigeria (Oyebisi and Agboola, 2003).

A summary of their ideas of four main tasks:

- Firstly, the development of Internet-based services to improve access to public information and services;
- Secondly, the improvement of transparency of public administration by using the Internet;
- Thirdly, full exploitation of information technology within public administration;
- Fourthly, establishing e-procurement.

The most important impact on the e-business strategy of B2B companies like MTNN will be the electronic procurement of public authorities.

The Procurement Office will announce public invitations to tender on a central Internet platform (e-awards). In the future, providers will be in a position to inform themselves rapidly and easily about the Procurement Office's entire investment projects. Search engines will facilitate this process even further. Interested parties will be able to download and process relevant data.

Just by a mouse click, firms will be able to transmit their bids to the Procurement Office. This will be done in a secure manner, and competitors will not be able to read these bids. The awards for the most economical bids and confirmations of orders will also be sent to clients via Internet. The Internet not only helps to save time and administrative cost; it also provides for more transparency in competition. In addition, it will be possible to simply pool individual orders into larger lots. This way, the Procurement Office will achieve lower prices quoted by its potential contract partners.

2.3.2 Economic factors

Johnson and Scholes suggest a look at Business cycles, GNP trends, interest rates, money supply, inflation, unemployment and disposable income. A review of the literature holds the importance of the business cycle, the investment climate and the market potential of e-business.

Business cycle

The general economic situation and the economic performance have a big influence on the e-business strategy. In times of economic downturn the pressure on cost-reduction and increased efficiency are high, although there is little budget to implement long-term focussed projects, like knowledge

management. This means that an e-business strategy has to focus on small incremental steps that go toward the long-term goal, but are each cost-controllable and give quick return on investment. In the end this will probably mean that the total expenses to reach the long-term goal are higher, but more controlled.

E-business investment climate

The economic situation is important for an e-business strategy; due to the ease in which projects are started it is good to look at investments a little closer. Forrester 2002 (see figure 3) gives a distinction in three phases of investment in e-business, where the first three years are clearly defined as a learning phase, where experimentation with the new and unknown technology takes place.

The second phase is rationalization, where promises on possible future profits and measurements in eyeballs (how many people take a look at your site) do not count anymore. This phase is characterized by focus on return on investment, cost efficiencies and real hard evidence of profit (this can be seen as, the 'old economy' values take meaning again in the 'new economy'). This phase is the same as the 'trough of disillusionment' in the gartner hype cycle. Due to the increasing uncertainty, companies' investment decisions are taken more carefully.

Levi gives empirical evidence for the relationship between higher perceived uncertainty and lower investments, where uncertainty is described in uncertain future demand (Levi,2007). This could mean that it will be difficult to find sponsors and budget for e-business projects in the current uncertain time, which is supported by experiences during the e-business strategy check at MTNN.

The third phase is described as renewed innovation, where the benefits of e-business are seen in the removal of boundaries between companies and more intercompany collaboration. This goes to the 'platform of productivity' in the gartner hype cycle.

It can be concluded that Nigeria is still at the moment in a phase of stagnation in IT (e-business) investments, which is also logical in the context of the economic climate. This will have impact on e-business strategy making because in the rationalization phase, the e-business strategy must focus on real benefits, like cost efficiency, increased competitiveness and good return on investment for e-business projects. E-business is still so young this can be a problem, due to lack of proved calculation tools and mechanisms for e-business projects.

IT development in Nigeria and in most other West African countries has been mired by social, economical, political and ecological problems. Its growth expectation is being suppressed by some societal vices grouped as social obstacles. They include population, attitude of IT professionals, education, legal framework, social infrastructures and funding, among others. These problems have impacted every part of Nigeria IT industry most especially the telecommunications sector.

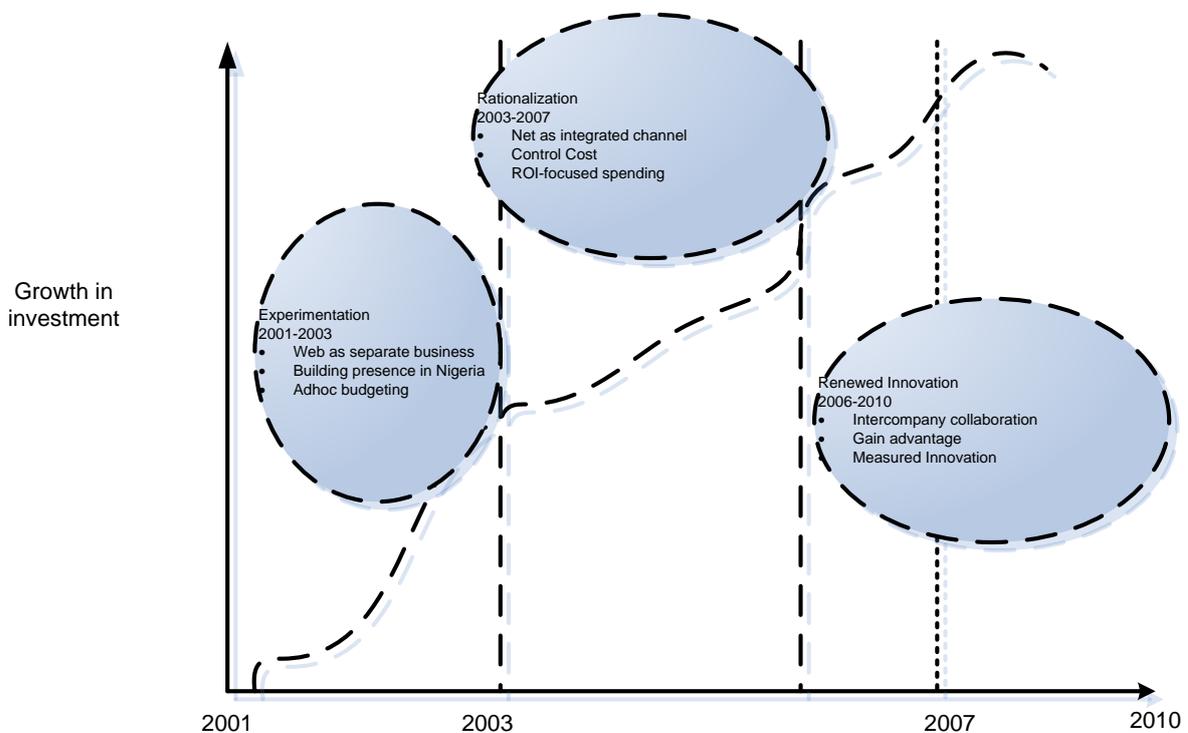


Figure 3 Three phases of net investment

E-business market potential

In the revise of e-commerce an often made distinction is between Business-to-Consumer (B2C) and Business-to-Business (B2B) e-commerce. The use of the term e-commerce here identifies the transaction side of e-business with suppliers and customers. Considering MTNN’s B2B side of e-commerce. Most research agencies such as eMarketer, AMR Research, Computer Economics, Forrester Research and so on expect a yearly growth of 100 to 200 percent. This gives us an indication of the importance of the B2B e-commerce market and the need for a company to use its opportunities. These numbers can also be used to show management which is not enthusiastic about e-business which potentials there are.

In conclusion, it can be said that the e-business investment climate is highly influenced by the business cycle and the dot-com crash. Therefore it is suggested to use the hype cycle, mentioned in section 2.1.2, as an indication for the future development of the e-business investment climate. This also overlaps with the phases described in figure 3, where the phase of renewed innovation overlaps with the ‘slope of enlightenment’ and ‘plateau of productivity’ of the hype cycle.

2.3.3 Sociocultural factors

An assessment of sociocultural factors in the macro-economy is several factors influencing the e-business strategy. Johnson and Scholes suggest population demographics, income distribution, social mobility, lifestyle changes, attitudes towards work and leisure, consumerism and levels of education as sociocultural forces influencing a business. Literature research suggested different socio-cultural forces that influence e-business, including trust and e-readiness as most important forces. These could be looked at on a general level outside MTNN, but will also have impact in the internal strengths and weaknesses of the organization.

Trust

The de-hype of e-business, the current economic downturn and the increasing fear for internet fraud/scam have made trust an important issue in e-business. Lack of trust is one of the greatest barriers inhibiting online trade between buyers and sellers who are unfamiliar with one. Consumers, feeling the pressure of economic downturn and internet fraud/scam, bought mostly from the most trusted sites during the 2001 holiday season (Theodor 2006). This shows trust as an important issue in Business-to-Consumer e-business, but it would be foolish to state that this is not the case in Business-to-Business e-business. In simple terms; trust can be defined as the belief by one party about another party that the other party will behave in a predictable manner. Two important elements of trust by a focal party about the other party are: (1) the perception of risk and vulnerability by the focal party in dealing with the other party and (2) the expectation that the other party will behave in the interest of the focal party.

Considering trust in e-business there is a difference between online and offline trust. In offline trust the distinction between trust in the organization (financial liability, name of the brand, and experience with the organization) and trust in the person one deals with; in the case of MTNN the (corporate) account manager and sales force. The object of offline trust is typically a human or an entity (organization). In online trust, typically, the technology (mainly the internet) itself is a proper object of trust (Shankar, Fareena and Glen 2002). In the B2B world, the online interactions will mostly be accompanied by offline interactions, it is important that the building of trust in these two 'channels' is consistent. This also means that the information given on a website or industry portal and the information known to and available to the salespeople who interact with the customers have to be the same; there is a need for a single source of information for customer interaction. For example, if the website talks about products or services which the company provides, and the salesperson cannot answer questions about it because he is not informed that the product was mentioned on the internet, this will give the customer the feeling of a bad organized supplier, which will harm both online and offline trust.

Shankar et. al suggest the use of the stakeholder model for viewing online trust. They state that online trust and its relationship with its antecedents and consequences can be viewed from the perspective of multiple stakeholders such as customers, employees, suppliers, distributors, partners, stockholders and regulators (see figure 4). These different stakeholders have a different orientation on the way they see trust (see table 1). This impacts the e-business strategy because it will be necessary to include actions to build trust into the implementation projects. This is the case as well for projects with external stakeholders, like customers, suppliers, distributors, and regulators, as with projects with internal stakeholders, like employees, partners, and stockholders. The different view on trust of the stakeholders makes it necessary to set priorities if they are conflicting. Internal trust is also a prerequisite for implementing e-business projects with external parties. If the own employees have no trust in an e-business application an external party is also unlikely to have it, especially if the employees show their lack of trust.

It should be noted that with trust shown by employees also the trust in necessity of projects plays a great role. If people see no use in using e-business it can also be seen as a lack of trust. Trust is also influenced by the government attitude towards e-business (see section 2.3.1) and, related to this attitude, the legal environment (see section 2.3.6).

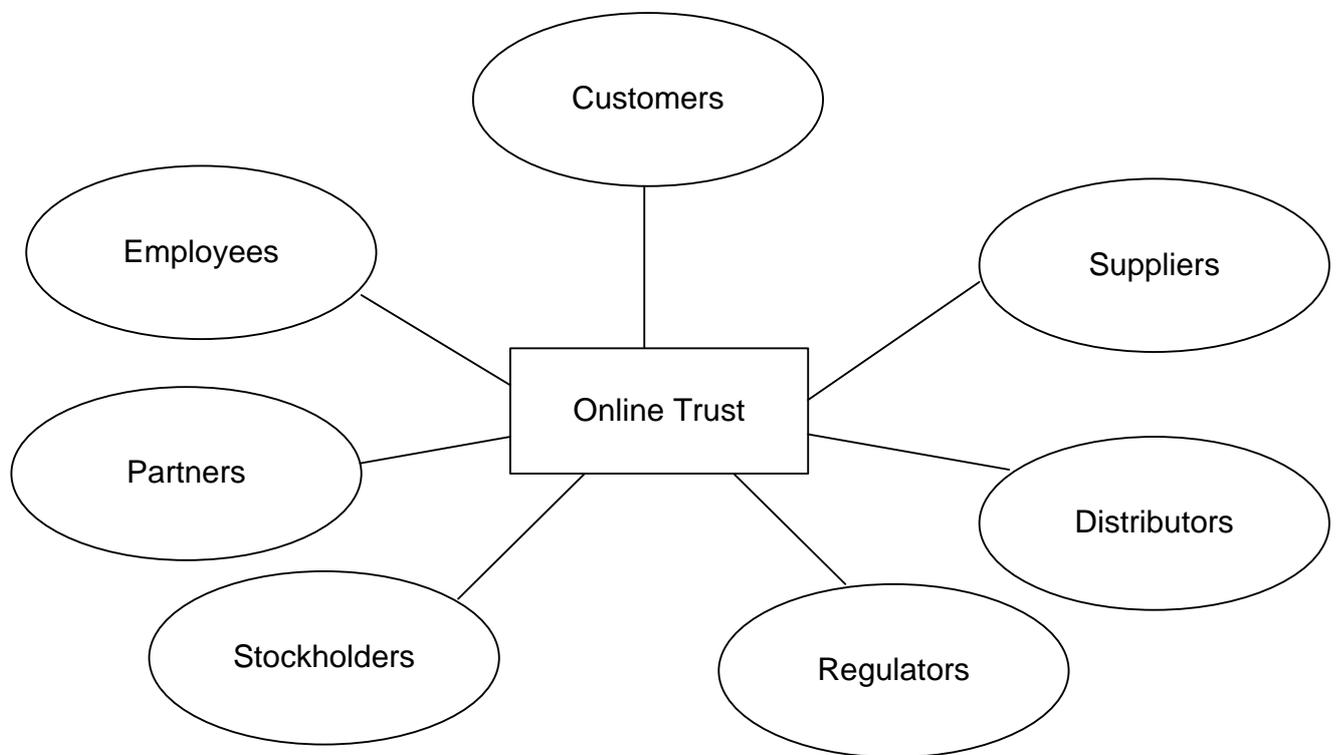


Figure 4 Stakeholders involved with online trust

Stakeholders	Orientation
Customer	How trustworthy is the firm's Web site for doing business, making purchases, getting customer information, and getting service? How safe is the transaction and my personal/company information that I give on the web site? How comfortable do I feel in my online experiences with the firm?
Employee	How accurate and reliable is the information to employees? How transparent are the company policies? How competent is the service for employees? How receptive is the company to employee feedback and interactions on the web?
Supplier	How competent is the company in its Web site interactions with suppliers? How confidential is the information sharing? Do I have preferential access to important information about the buyer? Is the firm trustworthy for online collaboration? Is the online information reliable? Is the online information consistent with offline information?
Distributor	How competent is the company in its Web site interactions with distributors? How confidential is the information sharing? Do I have preferential access to important information about the buyer? Is the firm trustworthy for online collaboration? Is the online information reliable? Is the online information consistent with offline information? Is the website a channel complementor? Are lead referrals accurate, current and screened for potential?
Partner	Can I expect the firm's Web site to promote my offering? Is my trust enhanced online as a result of the partnership? Do I have preferential access to important information about my partner? Can I depend on the company's web site to accurately present my information?
Stockholder	How accurate and timely is the information on company's activities and performance? How transparent is the company's strategy and performance on

	the web? How complete and unbiased is the information? Can I identify vulnerabilities as well as successes?
Regulator	Is there adequate information on compliance of regulations on the web site? Is the company transparent online in its compliance of relevant laws? Does the web site conform to privacy regulations? Do the company and its web site securely protect financial and credit card information? Do the company and its web site have a reliable and fair mechanism for addressing failures or violations of regulations?

Table 1 Different perceptions of trust of stakeholders

E-readiness

The second important influence is the so-called e-readiness, which describes the extent to which a country, region or organization is conducive to Internet-based activities. It can be stated that trust is a part of e-readiness, but this research will use trust for more individual issues and e-readiness for the general readiness of a country or region. This e-readiness is also part of the e-business strategy check, where it looks specifically at the e-readiness of employees in a certain business unit. The Economist Intelligence Unit developed a model to determine a countries' e-readiness (Economist Intelligence Unit Limited, 2009). This model takes six categories of data into account:

1. Connectivity and technology infrastructure
2. Business environment
3. Consumer and business adoption
4. Social and cultural infrastructure
5. Legal and Policy environment
6. Supporting e-services.

The percentage of Internet users in a country can also give an important indication of the acceptance of Internet in that country. Therefore the higher the percentage of Internet users, the more likely e-business will be accepted in the country. According to the e-readiness ranking in July 2002, Nigeria is in the 55 position among 60 countries ready to welcome e-business and internet usage.

The so-called Internet Hype has also influenced the perception of people in regard to e-business, as well the e-readiness of countries having the notion that there is no e-business minded culture anymore and the trust of people has dwindle in e-business projects. Pieper et al. describe the public perception on the Internet after the fall as a negative hype, which they describe as the pendulum swings back, right through the center, called reality, towards what could be called a de-hype (Pieper, Koulhoven and Hamminga 2002). The impact of this de-hype can even be more damaging than the hype itself, because necessary investments to gain the real benefits of e-business are not made. During the strategy check performed with MTNN the effect of the de-hype was very clear, as some of the employees responded with "e-business? I cannot really feel the impact."

In conclusion, it can be stated that trust and e-readiness are required to implement an e-business strategy and to find the sponsors and budget needed for this implementation. A corporate culture that is open to change and innovation will probably have fewer problems implementing e-business projects. The development of hype cycle mentioned in section 2.1.2 can give an indication on the sociocultural factors of trust and e-readiness.

2.3.4 Technological factors

Johnson and Scholes give government spending on research, government and industry focus and technological effort, new discoveries/development, speed of technology transfer and rates of obsolescence as possible forces influencing a business. Technology influences on the e-business strategy make a distinction between technologies and the underlying developments. In the beginning e-business was mainly technology driven, but the current general feeling is that e-business is not about technology but about a new way of working. Having said that, it is still important to keep an eye open on technological developments which provide opportunities or threats to a company's e-business strategy. By choosing the right technology, that is the one which will become the accepted standard, companies can save valuable money and time. The Gartner group, mentioned before with the hype cycle, have created the hype cycle of emerging trends and technologies, which provides a snapshot of the position of a set of technologies in the inevitable cycle of hype and disillusionment that accompanies a technology's path to maturity. This complete hype cycle is described in Appendix C, where the most interesting developments will be described.

Web services

Web services are mentioned as the next "big thing" in e-business. Web services are a catalyst for the next generation of e-business, that of dynamic e-business (Zhang, 2007). Sun Microsystems also mention web services as the latest in the development of ever more modular and distributed computing.

But what are Web services? The term "Web services" is used to describe a collection of technologies - a catalogue of technical standards and communication protocols - together use the Internet to get computer programs to talk to one another. This means that programs can use (parts of) other applications over the Internet to perform a certain task (Zhang, 2007). An example, which will describe it better, would be that an internal ordering application (in their SAP ERP system) of for example MTNN would contact an application on a MTNN Group server, that would provide the catalogue function. This way changes in the catalogue and even changes in the way the catalogue is structured are of no concern for MTNN, because they source the entire application from MTNN Group.

The technology and adoption are still young, as shown by the placement in the Gartner Hype Cycle (see Appendix C), but businesses should already consider adopting it and make sure they are ready for the requests of customers for Web services, which can be expected in the next two to five years. The placement near the peak of inflated expectations in the hype cycle warns to act with caution in adopting the technology and to not overestimate its value.

Standards

Standards are important for the economic feasible adoption of electronic commerce. They are not technological developments per se, but are a driving force for efficient technological development. Since the adoption of EDI by the main-stream businesses a lot of research has been conducted on standardization of the information exchange between different parties. Without standardization, each system of N nodes would have $N*N$ data exchange ways. A system or network would then become so complex that it is not manageable anymore and more important the cost of exchanging information between parties would be simply too high. Classical EDI systems therefore use a standard format to exchange business information. Such a standard is very rigidly defined, and therefore hard to adapt to new situations. With the XML this has changed. Due to the big perceived impact of XML, this standard is described separately below.

Dr. Olumide, chairperson of Cards Technology Limited Nigeria (CTL) Standards Subcommittee and Interswitch's global e-business architecture, estimates that standards will contribute to at least a 5.0

percent reduction in transaction costs for the industry. Recognizing 5.0 percent is much more conservative than most analysts' predictions, the savings would still justify the expense associated with creating standards.

XML

The eXtensible Markup Language (XML) promises to become a very important standard for exchanging information on electronic networks. Gartner predicts that through 2005, XML will serve as the key foundational technology for improving the functionality and scope of e-business by enabling advanced I_b-based processes, including information and application integration, cross-platform content delivery, contextual search and JIT software delivery, with an 0.8 probability. While XML provides the means of exchanging data, it does not define what data to exchange. XML is needed to satisfy a set of technical needs, data specifications need to meet business needs, which vary from company to company and industry to industry. Therefore one of the biggest problems with XML is that different industries and interest groups are working on specific XML standards for their interest. The explosion of similar standards is a real problem because it breaks the interoperability. The idea is that the common standards should be driven by a large committee and everybody should accept a common standard. XML is so special because it doesn't have the rigid form of a standard as was known so far. An XML message is consisting of two parts: the message content and the message definition, which specifies the structure of the message as well as providing meaning to different parts of the message. The message content contains the information carried in the message. This approach makes it possible to describe any kind of information in an XML message, which makes it highly flexible for exchanging information between parties that do not constantly exchange information.

In the industry of MTNN there are several initiatives to build a standard XML definition. SocketWorks Nigeria limited, is an Application solution provider, a prominent software organization in Africa, of which one of the goals is to promote information sharing and business process integration in the industry. SocketWorks has different XML projects, which are mainly oriented at standard XML specifications for exchanging exploration and production (E&P) data. The new set of schemas represent a starting point for the building of a business-to-business e-commerce community that spans many telecom companies and their vendors. Currently, the leading XML standards efforts are vendor or consortium backed. Microsoft Corp. (BizTalk); Commerce One Inc. (xCBL); Ariba Inc. (cXML); the Organization for the Advancement of Structured Information Standards (ebXML); and the electronics components industry (RosettaNet) are each pushing their own flavor of XML. Within Germany there is another important development with BME Cat, an initiative for the development of a standard for electronic data transfer for electronic catalogues.

All these different initiatives make it necessary to follow the developments closely. Good communication with customers and suppliers to adapt one standard are a way to keep an eye on the developments.

2.3.5 Environmental factors

Environmental factors in this context includes all the factors outside the organisation which provide opportunities and pose threats to an organisation such as environmental protection laws, waste disposal, energy consumption, global warming, natural disasters and so on. Environmental factors that can influence the e-business strategy are also pressure from Non-governmental Organizations (NGOs) and government to decrease the amount of used resources. Paperless offices and paperless invoicing and ordering can be helpful to this, although there not much literature was found on this topic, however this factor will be further discussed in the rest of the research on how it impacts MTN e-business strategy.

2.3.6 Legal factors

Johnson and Scholes mention monopolies legislation, employment law, health and safety and product safety regulations as possible macro-environment forces that can influence strategy making. E-business and law suggest are important forces to handle electronic contracts and transactions, dispute handling and privacy. Issue on trust has an important legal aspect, this is discussed as follows:

All businesses are tied to local environments and hence to local legal frameworks, whether they are brick and mortar firms or new organizations undertaking electronic commerce. In traditional industries, regulation is often considered for monopolies; to address windfall profits; to manage externalities and information asymmetries; to ensure continuity or availability of service; to control excess competition; for public goods and situations of scarcity and rationing and for circumstances where bargaining power is unevenly distributed or for other social policy aims.

One of the specific problems with the law is that it takes considerable time to formulate policy and establish it in a legal framework. Therefore the law is always considerable behind the developments in the market, where the current speed of development the business environment changes every year. However it is still important to have a solid legal framework to solve disputes, which gives stability to the business and a higher level of trust.

Levi concludes in their research on legal determinants of the global spread of e-commerce that quality legal rules and their enforcement positively associated are with e-commerce revenues (Levi, 2007). Therefore it will be important to watch the legal developments in the e-business field.

Electronic contracts and transactions liability

Presently one of the greatest challenges for B2B e-commerce is providing the means for tracing accountability and verifying what happened during online transactions. Since the first days of commerce, buyers and sellers have known each other identities, first through face-to-face contacts, and later through letters, phone conversations and trusted intermediaries. This knowledge allowed for research into the past histories of the trading partners and helped in solving disputes when deals went wrong (Banji and Kaushalesh, 2004).

The current developments in the business world, where the accountability of established firms is ever more questioned due to cases for corporate fraud (Enron, Wordcom), is another reason that an electronic version of the old 'paper trail' is needed.

Dispute handling

The topics mentioned above are about delivering proof in case of problems with transactions or contracts that are accepted by a dispute handling authority. To get that far this has to be proved, it first has to be clear which institute is seen as the accepted party to handle disputes. E-business makes working across borders easy, which raises the question under which legal 'umbrella' an organization is operating.

Determining which legal framework one operates in is difficult because through e-business, companies are able to operate in a more global environment. Even for companies like MTNN, who are historically international oriented, e-business is changing the possibilities. Before the ease of communication and exchanging information most of the operations were handled by daughter companies in the regions (other countries than Nigeria), which had a good understanding of the local legal environment. Now it is possible to do a lot of business from outside that legal environment, which increases the need of understanding different legal environments. For B2C transaction on the Internet the European Union gives an indication on dispute handling: "The current text stipulates that

the competent court is always the one of the consumer's country of residence - independently of what both parties agree (this is different in business-to-business contracts)".

The ease of working in another legal environment makes it also more easy for an organization to escape a legal environment if it is not 'nice' enough. In particular, if governments make the environment less amenable to internet based companies then they can relocate, with greater ease than traditional companies, to other locations outside that particular jurisdiction, with knock-on effects for the local economy. These knock-on effects will affect the varying interests of the state, including economic growth and taxation, as well as surveillance capabilities. This is more the case for the real e-companies than for brick-and-mortar firms, that is established firms that incorporate e-business in their already existing organization, like MTNN. Moreover, for the traditional companies relocating parts of their processes can be interesting, for example to avoid high wages or taxes or to get close to highly skilled workers, like for the software industry in India or for call centers in Ireland (Banji and Kaushalesh, 2004).

Privacy and security

Privacy is an important topic in discussions on e-business because of the direct impact it has on people. But when looking at business-to-business e-commerce the issue is not that relevant. Here the issue is more on security than privacy, it is not good for business, if information about business customers are on the street. Especially in cases like e-bidding, where companies are very interested to know who is bidding what, it is important that the data is protected sufficiently. Policy makers have little interest in protecting businesses from each other, in contrast with protecting the consumer; the legal arrangements on this issue can be neglected.

Something that is of concern about policy makers is the liability in electronic contracts and negotiations, like the mentioned e-bidding, which has been discussed above.

Trust

Trust as important factor for e-business acceptance is already mentioned with the sociocultural factors (see 2.3.3). Trust itself is a sociocultural factor, but in building trust legal factors play a significant role. The OECD gives the following attention points for building trust in e-business:

- Consumer protection
- Privacy protection
- Security and authentication
- Taxation
- Trade policy and market access
- Competition law and policy
- Electronic finance
- Access to and use of the information infrastructure.

Of these legal factors, consumer protection, privacy protection and competition law and policy, consumer protection, is not relevant for this study as B2B e-business is discussed. There can be found little on privacy protection in B2B e-business in the literature, but sensitivity of communication is very important in B2B e-business. Competition law can play an important role when companies are starting to act more as one organization by using collaboration tools and tightly integrated production and ordering systems, but in the current situation this is not the case.

Summary

A review of literature on strategic analysis suggested using Porter's five forces framework for analyzing the industry and the PESTEL framework for analyzing the macro-environment. With the macro-

environment analysis political, economics, sociocultural, technical, environmental and legal forces influence e-business. Table 2 summarizes the impacts found in the literature study.

Political	Taxation, Foreign trade regulations, Government attitude towards e-business
Economic	Economic climate-business investment climate
Socio Cultural	Trust,E-readiness
Legal	Trust, liability of electronic contracts, Dispute handling regulation, Privacy and security
Environment	Environmental protection laws, energy consumption
Technical	Web services, Standards and xml

Table 2 Macro-environment forces found in literature

Chapter 3

3 RESEARCH METHOD

3.1 Research strategy

Due to the need to look into the future, the research strategies adopted are survey and case study research. The case study is generally superior when answering the how and why questions about a specific topic, while the survey is appropriate when answering the who, what, where, how many and how much questions about a topic. Both research strategies required when the researcher has little control over the behavioural events and when the events under investigation are contemporary. This is clearly the case in this thesis, which incorporates the e-business strategy check and current development in MTNN.

3.2 Research approach

The research methodology was explorative and descriptive. Explorative research tends towards loose structure with the objective of discovering future research tasks. It is useful when the researchers lack a clear idea of the problems they meet during the study. Descriptive research is about the questions who, what, when, where and how of a topic (Donald and Pamela, 1998). An explorative method was employed because no research has been done as regards the influence of a macro environment and industry forces on the e-business strategy adopted by MTN-Nigeria. The descriptive approach involved describing the effect on specific e-business strategy of MTN-Nigeria.

The primary form of data collection consisted of interviews with 10 interviewees: People who have had contacts with MTN directly and indirectly. These included previous and current staff at various positions, day-to-day customers, and managers located in Supply Chain/Logistics, Purchasing, Marketing and IT functions, suppliers as well as partners. People were chosen from different areas as mentioned to avoid biased responses. The interview was based on the perceived relationships between macro environment forces and the e-business strategy of MTN-Nigeria. Direct face-to-face interviews was the primary method of data collection. Appointments were fixed with interviewees and confidentiality was assured before the interviews were conducted. Appendix E gives a list of the interviewees' functions and their respective interview dates.

A second approach adopted was an online questionnaire that was filled by interviewees that may be difficult to reach. No special selection was made for the online questionnaire except for the fact the respondent must be someone living in Nigeria, an internet literate and makes use of MTN products or services. A discriminative selection would have resulted in little or no response due to the low level of exposure to e-business and the reluctance to participate in online questionnaires. The online questionnaire was pilot-tested by a few respondents, modified and a revised version link was made available to as many respondents via their emails. Other sources of data were documentations, archived records of MTN and direct observation.

The interviews were conducted in a focused manner that it was carried out in a conversational manner. The framework for the interviews was guided by a semi set of questions listed below and a number of key subject areas such as: PESTEL structure, drivers behind e-business adoption; successes and failures in the projects; the levels of business integration targeted and achieved.

Structure for case study interviews

1. Which external forces influence the e-business strategy of MTN-Nigeria?
2. To what degree does each of the external forces influence MTN-Nigeria?

3. What is the current business and e-business strategy at MTN-Nigeria?
4. How will the strategy be affected by these changes mentioned in question 2 above?
5. How is the outlook for the future developments of these forces?
6. How can the company respond to these effects?

3.3 Analysis of survey data

The online questionnaire web site address was given as <http://adesina.s155.eatj.com>. It consisted of 62 questions: 8 questions were text based and the rest 54 had answer -options. The drop down list questions contains optional answers such as low, medium, high and very high. These answers were associated with the following values respectively 1, 2, 3, 4. The rest of the optional questions are labelled with options: no impact, low negative impact, low positive impact, high positive impact, high negative impact and are associated with the following values respectively 1, 2,3,4,5. Appendix D gives a blue print of all the online questions.

The questionnaires received were checked to make sure they have been properly completed by providing assistance where required. The questionnaires were designed such that it is easy to see if respondents were consistent in their responses and if they understood the questions. Questionnaires that were not properly completed were removed as “unusable”. The data provided by online attendants was collected into a MySql database which was later processed and analysed using Microsoft Excel.

The questions and answer-options in the questionnaire were entered into Excel and responses from the questionnaires were entered against the answer-options of each question as a frequency count under the correct category. Percentages of respondents that chose a particular answer-option to a question were then calculated for each question.

The online questionnaire served as supplements to the direct face-to face interviews; the interviews appeared to be more reliable than the online questionnaire as they were taken with authorities in e-business that were directly affected by the external forces examined in this research work.

Moreover, the response frequencies for the online questionnaire were stated in the spreadsheet; however the answers given were not interpreted in isolation. In fact the analysis and conclusion in chapter 4 and 5 was based on this order of reliability:

- Direct face-to face interview
- Documentations, archived records of MTNN and direct observation
- Online questionnaire.

Chapter 4

4 Research Results and analysis

This chapter describes MTNN e-business strategy thus answering research question three “What is the current business and e-business strategy at MTN-Nigeria?”, external forces and their respective impacts answering questions one and two, and the threats and opportunities in the face of MTNN e-business strategy thus answering research questions four and five. This information was gathered using participant observation during the strategy check, which was carried out among MTNN staff. Interviews were held with e-business staff within MTNN. An indication of their views about MTNN is described in section 4.1.1.

Of the 200 online questionnaires sent out, 150 complete questionnaires were received back. This gives a 75% yield. This sample is believed to be a representative of the E-business status in MTNN. The data collected at the end of the online survey can be found in the spreadsheet attached (SurveyData.xls) to this research work. The questions were classified based on colour codes into the examining forces and the most popular percentage response for each optional question was determined.

4.1 DATA REPRESENTATION

According to discussions with Mr. J, manager of the I&S e-business and process support team, and Mr.S, e-business manager of MTNN, suggest that the company’s strategies are formulated on business unit level because they have to be linked to the (sometimes very different) business strategies. Information on the intranet website of MTNN, gives us the focus points as approved by the MTNN e-business strategy check. This strategy check is further described under section 4.2.

E-business at MTNN involves all of the company’s Groups and Regions of Nigeria. The e-business strategy implemented based on its core values: leadership, relationship, integrity, innovation and “can-do”.

MTNN has three major advantages in implementing its e-business strategy:

- The high profile and strength of the MTNN brand
- A nationwide business organization with a presence in more than 30 states in Nigeria
- The networked know-how of more than 3,500 employees nationwide.
- Creating a neighbourhood presence through Nigeria via its affordable offerings/products.

The goals that MTNN set for 2010 were to get 85% of all its revenues through e-business, with even 50% for consumer products. All processes have to be aligned with e-business, e-procurement will be set up nationwide and 50% of the procurement has to be done through e-procurement. It should be noted that experts of the e-business department are not expecting that this goal will be reached easily considering the business challenges in Nigeria. They argue that all these goals are set for the whole of MTNN and therefore too generally defined. Differences between B2C and B2B operations, product business, service business and solutions business in Nigeria all make it difficult to set one goal.

4.1.1 Interviews

The research interviews have been conducted with experts on e-business inside and outside MTNN offices. Within MTNN, interviews have been conducted with Mr. S, e-business manager and Dr. A., responsible for IT Strategy of MTNN. Outside MTNN offices, interviews have been conducted with Mr. Z., responsible contact person for the telecoms industry, and Mr. G., head of the e-business department of CelTel. A summary of the interviews can be found below, while the most important findings are listed based on PESTEL framework.

Political forces

- Trade barriers and investment ventures which are linked to the fickle political state of Nigeria can hold back e-business. This is an importance issue as MTNN has to be very carefully in carrying out major business projects. The political season has to be closely observed before any rollout of new products or solutions.
- The educational system has an important impact on the knowledge and experiences people get with technology in general. The growth of e-business is still staggering as IT experts are scarce due to educational system confronted with its own issues.
- The politician and governments concerning competitive trading is so layback and inconsistent. Therefore business culture is so crude and haphazard at present.
- People are reluctant about email and electronic agreement because of internet fraud being rampant and Nigeria being one of the frontliner in internet scams. Therefore trust on internet is not realistic and very few electronic contracts are supported. At present the government is trying to create an infrastructure for this.
- Selling goods over the internet is still in its infant stage, as trust needs to established and identified. This creates trade barrier when internet trades are from Nigeria.
- Trust, the whole discussion around digital signatures and privacy is mainly a political issue. For instance, when software manufacturers gather information about the habits of users, trust is violated, therefore there is need for clear rules about what is allowed and not.
- The educational system in Nigeria is very important for MTNN. The kind of courses given at colleges, high schools and universities, availability of computers and internet in the institutions are all important to MTNN. Due to the economic downturn the pressure on the job market is very high and it is still hard to find qualified and trained employees for IT and e-business projects.
- The government influence on telecom sector is still high. In spite of governments inability to provide some basic infrastructures, regulation issues are still tough, this impact the possibilities to use e-business technologies.

- Internal politics are much more problematic than external politics. Administration in MTNN is sometime divided, where authorities are found pursuing different goals in parallel.

Economic forces

- In the economic sector, because of the poor state of economy, Nigeria is confronted with currency risks and this adversely affects business.
- Lack of update information across all the arms of MTNN brings about internal competition which frustrates MTNN e-business strategy. Customers find themselves purchasing products in different parts of the country at different prices.
- Other economic trends are that there is clearly a trend to focus on core business and therefore non-core competencies are outsourced. This means that MTNN is trying to improve its relationship with providers not only as suppliers of computer accessories but also as supplier of important elements of their business process. Therefore its relationship with suppliers should be given priority as it is a bad business culture to switch from a party that has invested in getting to know their business. This also applies to customers as well.
- The development of the business cycle is a very important factor in e-business. In these times, when the economic climate is not good the people are not willing to invest in projects where the outcomes are not clearly defined in financial gain. The tendency is to stop projects with some risk and focus on small projects with clear goals and low risk.

Technology forces

- Probably the most important technological impact is that of standardization. It is very important that the industry comes together and defines a common technical standard for describing equipment and documentation. Just using all the same screws and bolts is not the biggest issue, it is more the way products and solutions have to be documented. At the moment MTNN puts a lot of effort in rewriting their own internal documentation and manuals into the standard of different customers, which of course cost a lot of time and money.
- An important technological question is where the technology is going in Nigeria, especially in terms of mobile applications, broadband internet etc., as the Nigeria government has not been able to formulate Information Technology policy.
- The topic of technology standards is very important for the future of e-business, as MTNN, its supplier and even its business partners need to operate on a agreed platform that would reduce cost and save time.

- Besides standards for the products and solutions it is also important that there are standards for storing the information about the products like the data necessary for marketplaces.XML can be handy for this task.
- Technology trends shows that Web services would have a huge impact on e-business as it moves e-business away from the browser which is still a difficulty for technology users.However, webservices is yet to be popular except for academic centres and in technical magazines.

Sociocultural forces

- MTNN has issues handling their website nationwide due to cultural differences. In the northern part of Nigeria, there is a lot of businesses with strict Islamic states like Kano,Borno and Kaduna.If MTNN website shows young and beautiful business women, this may probably offend their customers in such regions. These peculiar cultural dispositions should be considered when MTNN is updating its ecommerce system.
- Globalization is an important topic probably because it generates such a high level of insecurity. People do not know how they can handle the multiple cultures, multiple legal frameworks in the country.
- Due to computer literary, the willingness of MTNN customers to participate in decision process is poor.MTNN deploy online configurators, where customers can configure their own solutions and instantly buy the solution based on the customers input, however Nigeria customers are not used to this culture as they feel the MTNN engineers know better than them.
- Lack of knowledge of people dispositions in some certain areas of the country had hindered MTNN expansion plan. For MTNN to identify the right places to plant their branches could be sometimes very difficult. Without proper feasibility study, expansion is quite impossible.
- The most important influence on e-business in the sociocultural area is probably that of education. The more people known with the internet, the more a technology is widely accepted in everyday life and business. This of course has close relationship with the education policy of governments.
- Internet usage for the young people is less like work than the old fashion jobs. Youths surf the internet seeking for information and that is most of the time also considered leisure time. This implies a thin line between work and leisure.

Environmental forces

- There is a need to increase Science and Technology allocation to be able to attend to the needs of IT development. Software and hardware components of the IT industry are very expensive and require the assistance of the government. The R&D department of the industry also needs a lot of money especially in the demand for high-value added services such as facsimile and

electronic mail. Nigeria will definitely get value for whatever is spent in this area. The funding of IT should not be left to the Federal Government alone, the state and local governments should also contribute their quota. Private organizations should also be encouraged to finance the IT industry.

- The push of environmental organisations on reducing waste. Simple things like pallets that are used only once, this is a enormous source of waste and also cost since it is simply more work to administrate the information needed to use them. E-business can be used to reduce the amount of paper used un transactions, sales and engineering. This could be used as a promotional part in MTNN environmental policy.
- Government need to create an enabling environment for e-business. Among the social infrastructures necessary to propel the Information Technology Industry in Nigeria are a functional telephone system, efficient power supply, and good transport services. Nigeria has one of the lowest tele-densities and accessibility as well as number of Internet users in the whole Africa. Nigeria is yet to meet the International Telephone Unit (ITU) standard of one line per one hundred. 0.07 line to 100 inhabitants was the highest installed capacity between 1992 and 1997 with the highest utilization of 0.36 recorded in 1996 and 1997. This implies that capacity utilization services are not within the reach of common man. Besides, most of the Nigerian Telecommunication equipments have become obsolete and the customers are not getting value for their money. The current electricity generation capacity of the country is too low to allow for growth of IT industry. The power supply of the nation has problems with distribution, generation and maintenance. Like the telephone, most of the national electric power authority (NEPA) equipments are obsolete and the kanji hydro-electricity generation station does not undergo adequate turn around maintenance (TAM). Most of the thermal stations also need repair. The present civilian regime is seriously addressing this problem. The current deregulation policy of the energy sector that encourages private participation is however a welcome development.

Legal forces

- Strict laws on privacy and security could be become a killer for growth of e-business in Nigeria.
- Traceability of goods is getting more important in many industries; this could also easily be extended to the telecom industry. This is an opportunity to get more involved in the service and maintenance business in the country and the buying back of second hand equipment which could be reused in low-budget projects.
- Legal validity of electronic contracts has a lot to do with the legal regulations in Nigeria. MTNN has an infrastructure that uses certificate to proof the identity of people or organisations. Due to MTNN strong name, public key infrastructure of MTNN is partially trusted by other parties.
- Good arrangements for dispute handling and consumer protection are important helpers for building trust in e-business. Legal frameworks are still behind the actual developments, because of the long time it takes to form policy and the insecurity on the direction of e-business.

4.2 E – business strategy check Methodology

For the development of an e-business strategy, MTNN is using the e-business strategy methodology developed by MTN Group Limited known as balance scorecard methodology characterised by Supply chain management, e-collaboration, industry portal (e-commerce) and e-procurement. The idea behind the e-business strategy methodology is that this methodology provides the business unit with a clear view on e-business and a straightforward way to identify e-business projects that support the current strategy. The result of the strategy check should be a roadmap with e-business projects that support the business strategy. The findings of a strategy check will also influence the overall strategic thinking in the business unit regarding e-business.

MTN Nigeria utilizes balanced scorecard methodology in developing its business plan. Scorecard has five strategic focus areas.

1. Stakeholders
2. Employees
3. Internal Processes
4. Customers
5. Financial

MTN Nigeria Integrated Performance Management Framework(IPF)

The IPF is the integrated Performance Management Framework-this performance management system is in use in MTN-Nigeria. The IPF is based on the Balanced scorecard Model described above and measures employee and organisational performance from various perspectives.

The IPF is also based on 7 key Strategic Themes.

- Identify and leverage growth in existing and new markets
- Drive for increased operational efficiencies in our business practices
- Identify and leverage Group synergies
- Develop and protect the MTN brand
- String and committed leadership
- Aligned and mobilised organisation
- Integrated and aligned performance network

The result of the strategy check is used as a starting point for analyzing the influences of macro-environment forces on the e-business strategy of MTNN. Appendix B further describes Balance Scorecard Model, its different modules and the steps to verify any e-business strategy adopted by MTNN.

Four cross topics important for the whole business unit and regarded as MTNN e-business strategy are: E-procurement, E-collaboration (CRM), Supply chain management and E-commerce. These topics are described below:

4.2.1 E-procurement

The necessity for e-procurement came out of the organization itself. Analysis made by MTNN showed that although a lot of money and energy has been put in e-procurement, the customers and MTNN staff are not using the tools available. The goal of the project is to extend the e-awareness within the

different branches of MTNN. This requires getting an overview of the buyers in the organization and the introduction of nationwide reporting.

Key values of implementing e-procurement within MTNN are the reduction of process costs in the entire procurement process; create an advanced tendering and quotation process feasible by e-procurement tools and procedures. A problem which has to be overcome is the reluctance to use the tools, partly because people do not see the use of it, and the uncertainty in online bidding transaction.

4.2.1.1 Opportunities for e-procurement

Forces that could bring opportunities for e-procurement on macro-environment level are the standardization (of information and data formats) in e-business and XML, and the economic pressure on reducing costs (as result of the business cycle). On industry level there are forces towards standardization and modularization of solutions, systems and services, and the demand of customers to order all their products through one tool.

Increased standardization of information- and data-formats is an important opportunity because it reduces the cost of connecting electronically to ones suppliers, which makes e-procurement interesting for ordering with smaller suppliers. It is important to define which standard is adopted in a certain industry, so the suppliers can deliver their data in one format to all customers and MTNN can expect data to be delivered in one format. XML has high promises for this, but there are also problems. The technology is so flexible that almost any organization or industry group can develop and declare its own "standard." If several versions of XML emerge within the same industry, it becomes more costly to share data. Therefore MTNN should participate actively in the development of one standard XML-schema on their suppliers' side.

The current economic situation puts pressure on organizations to reduce costs, which is the main claimed benefit of e-procurement. This development will require the procurement office to reduce the amount of suppliers and get volume per supplier on a level that automation is economically feasible, which increases the possibilities for e-procurement.

Standardization and modularization of solutions, systems and services will also decrease the amount of different material parts used; therefore increasing the volume of parts needed from one supplier, and increase the possibilities for e-procurement.

Further it will decrease the amount of different (internal and external) suppliers needed, which also helps bringing procurement costs down (negotiating, contracting).

All these issues should lead to electronically attached suppliers, where standard parts ordered in the ERP system result directly in a message to the supplier, all with up-to-date prices. This linkage is also necessary to deliver electronic spare part ordering catalogues to MTNN's own customers.

4.2.1.2 Threats for e-procurement

Threats for e-procurement imposed by macro-environment forces are problems with electronic contracts and problems with getting all suppliers on one standard for information and data exchange. Industry forces that could influence e-procurement negatively are the bargaining power of suppliers and problems because frequently local suppliers are used, also in less developed regions that do not have a infrastructure for e-business, or local suppliers that are needed ad hoc.

The problems with the legal system, including unclear regulations on electronic contracts, is not too big

because MTNN has mostly long-term contracts with suppliers, which also include arrangements for discounts when a certain amount of products is bought in a period of time. Also for e-bidding on the supply-side, MTNN works with a pre-qualified set of suppliers with who contracts are signed before the bidding.

The negative effect of the high bargaining power of suppliers can be seen in connection with the opportunity given by standards for exchanging information. MTNN has their own internal master data standard for material, and request suppliers that they deliver their product information in this format. Two problems arise here, firstly most suppliers do not deliver the data in the format, and secondly, the format is MTNN specific, even though it is build on standard fields of the SAP ERP system. Therefore it makes sense that MTNN starts looking for or working on a standard that can be adopted by the industry (suppliers of technical solutions), based on an open XML standard. This would make it more interesting for suppliers to deliver their data in this format, because they can do so for more customers than only MTNN.

This still leaves the problem open that suppliers find it too costly to fill in all requested data. Therefore MTNN should try to increase its power over their suppliers, i.e. by using more generic parts that can be supplied by different suppliers. This could be accelerated by the standardization and modularization.

Moreover lack of infrastructure such as power supply, good roads in Nigeria where MTNN is operating is a problem, which asks for good consideration if parts of a project have the potential for e-procurement.

Therefore MTNN should concentrate on using e-procurement for the headquarters (i.e. Lagos, Abuja and Rivers) and regional business centers (i.e. Kano,Delta) first, and leave the local project sites out of the picture for the moment.

4.2.2 E-collaboration

The strategic necessity for external e-collaboration comes from the differences in MTNN outlets across the countries. The necessity for internal e-collaboration has emerged so that knowledge could be shared, reused and uniform across the different locations in MTNN. MTNN considers E-collaboration as a best practice approach for nationwide projects to promote cost-efficient projects.

The goal of the project is to establish a single tool for online collaboration within projects and daily business processes.

Key values of internal e-collaboration are the use of a single source of information, the reduction of storage costs, the benefit of bringing experts together and the decrease in travel expenses. For external e-collaboration the stated key values are increased intimacy with the customers and thereby customer binding and the reduced response times for questions and project decisions, which can shorten the project durations.

A challenge at the moment is the ability of MTNN staff to embrace the change as the different regions of MTNN (from its inception) started off using different tools for e-collaboration.

Another reason why the staff resists change is that staff sometime think that e-collaboration is only about implementing a tool and teaching people to work with it, and however they don't see the benefits in the way work is carried out nor the time savings and reduction of non-conformance costs in the uniform online collaboration tool.

4.2.2.1 Opportunities for e-collaboration

In the macro-environment, the following opportunities for e-collaboration can be found: the government attitude towards e-business, which is fairly positive shown by the cases of e-Africa, the increasing globalization, which requires people to work in international and flexible teams, and the younger generation that comes into power, which could turn around the negative attitude towards e-business. From the industry, customer requests to do collaboration with the customer in projects. Due to the high bargaining power of the customers this is an important force.

The government attitude towards e-business and the younger generation which comes in decision making positions are external forces that support a more positive attitude towards e-business, but it can be expected that this influence is not enough to turn the negative attitude during the bad current economic situation.

Globalization is a very powerful force for MTNN operations as global projects can be supported by e-business tools to overcome problems with information distribution, different versions of documents and time/place separated team members in different states of Nigeria.

The request by a customer say A for external e-collaboration in projects is a very strong driver for e-collaboration with external parties, and the results could be used to show benefits for other projects. Due to the current economic situation it is very important that cases that show clear benefits are available. Therefore the e-business department of MTNN should analyze the case of international projects and the possible future case of important customers to generate a solid case with metrics, which can be used to show the benefits of e-collaboration.

4.2.2.2 Threats for e-collaboration

Threats for e-collaboration in the macro-environment can be found mostly in the sociocultural forces: lack of trust and e-readiness, e-tiredness. Further the bad e-business investment climate makes it difficult to find support and budget for e-collaboration project. This negative attitude towards e-business can be brought back to two main influences: the current economic situation, which brings a general negative feeling towards investment decisions, and the influence of the de-hype, which increases this even more for e-business. Minor influences are the lack of a solid legal framework for e-business, the lack of standards and the increasing globalization which makes the business world even more complex. This correlation is graphically shown in figure 5.0. The issue of globalization brings also a direct threat to e-collaboration, because difference in cultures and work methods can lead to problems.

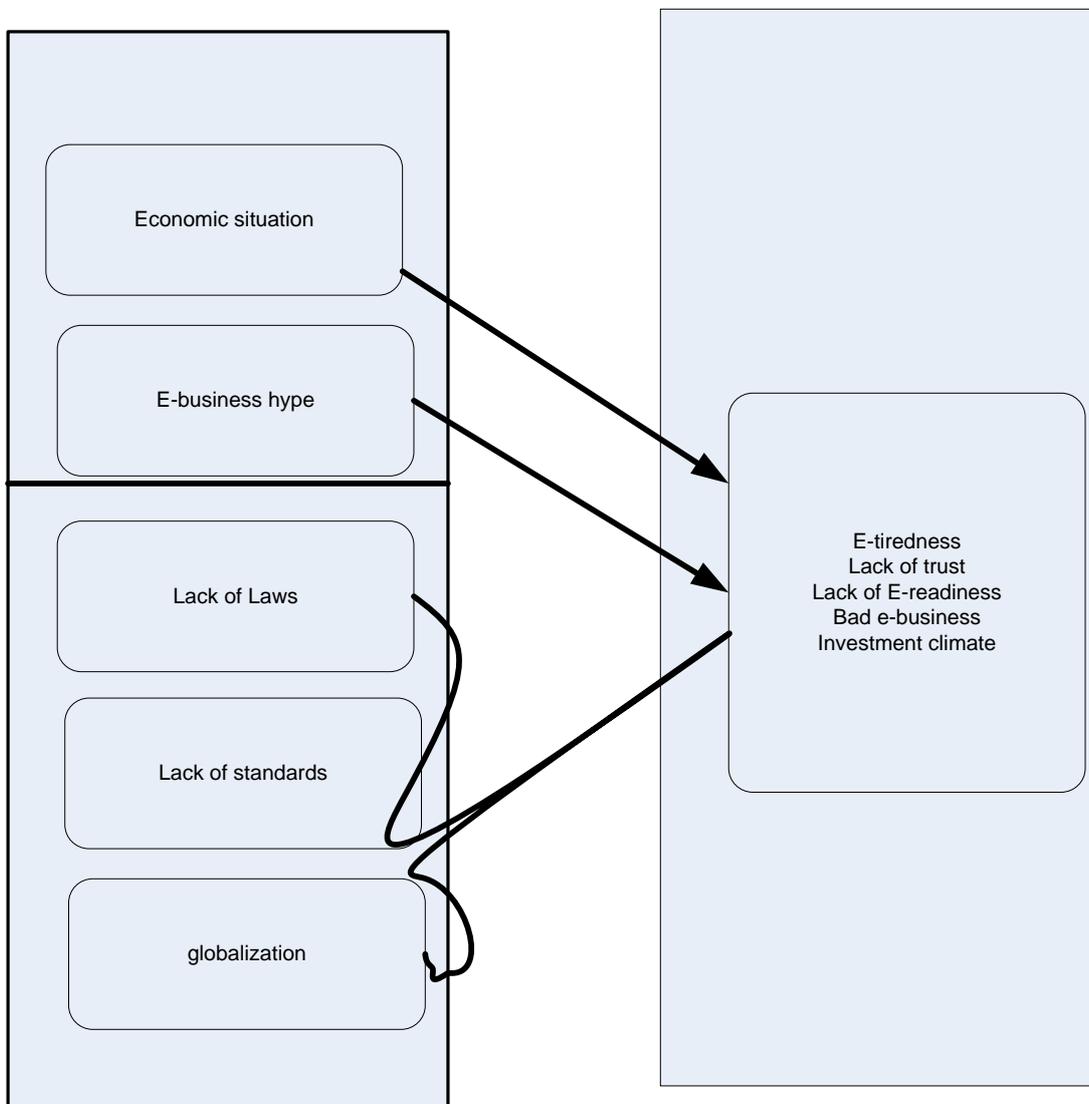


Figure 5 Forces Correlation

This correlation suggests that a negative attitude towards e-business remains until the drivers become more positive. The predictions of the Gartner group suggest that the hype cycle will start to rise again in 2003, this has turned out to be true as the economic situation globally has kept high especially between 2003 and early 2008. Some of the points mentioned in the section opportunities above do pose positive influence on the visible result, but the negative drivers are still too strong. In order to overcome this problem MTNN should start their projects in small groups with good training and support, and must try to get solid business cases that show the benefits of e-collaboration.

The threat that cultural difference will lead to problems is not only applicable on e-collaboration, but is important for international projects in general. Therefore it is recommended that MTNN uses the experience of their employees, by involving people with experience in international, cross-cultural projects in the implementation of collaboration processes.

4.2.3 Supply chain management

The need for a computerised Supply chain management system came out primarily to deliver good and services to MTNN customers, suppliers, distributors and business partners efficiently. MTNN seeks to leverage the supply chain as a means to improve performance and increase the emphasis on developing closer relationships with its suppliers, distributors or customers and there has been a consequent

movement towards longer-term relational policies and a growth in partnering.

MTNN has been able to enhance the flow of information, services and goods through the supply chain system. MTNN intends to leverage its efficiency by fully integrating its e-procurement system with the computerised supply chain system.

Key values of the supply chain management system is to manage the movement of raw materials into the main headquarters of MTNN, enhance internal processing of materials into finished products/services, and then the movement of finished products/service out to telecom subscribers .

4.2.3.1 Opportunities for Supply chain management

Over time, the supply chain has become a key factor in achieving both cost and service improvements and has assumed a more central role in the business planning of successful organisations. In the Nigeria Telecom industry for example, MTNN engineered its supply chain using make-to-order, outsourced logistics, low inventories and direct distribution in order to achieve significant competitive advantage over its rivals.

Integrating e-business aspects in the supply chain and in its relations with partners enhances efficiency and logistic processes.

4.2.3.2 Threats for Supply chain management

MTNN new practice of supply chain management offers much promises however examples of it success stories are relatively few in number.

In practice however, MTNN practice of supply chain integration has often been stalled by factors such as rival cultures, information technology deficiencies, lack of process alignment and other organisational legacies.

It has proved extremely difficult to achieve genuine integration between common entities in supply chain and that the arrival of this technology will not alter the situation, without significant organisational and cultural change. The supply chain system at present is confronted with the nation's congested transport system which often causes delays in the distribution strategy as well as the problem locating addresses.

4.2.4 E-commerce

The need for an ecommerce portal came out of many reasons.

Observation shows that customers value a single point of entry for all online interaction with MTNN. The comparison of the web presence of MTNN with that of competitors like Globacom showed that on the competitor's website it is much easier to find information about products and solutions for a specific branch or industry.

A very important driver of MTNN business is the MTNN Live project which is driven directly by MTNN headquarters. This project is an effort to present the solutions and products that MTNN offers in a more transparent way to the customers, by presenting MTNN solutions on every computer devices such as mobile devices, laptops and desktop PCs through their web portal. This project also gives a good overview of the gaps in MTNN portfolio for internal use and forces different divisions within MTNN to work together to create these overviews and thereby increase internal communication and hopefully prevent internal competition for instance different MTNN sales department offering different offers to the same customer.

The goal of the Portal system is to create a single interface to interact with customers, MTNN staff, suppliers and related stakeholders via the Internet. This portal includes all necessary functions to: inform the customer, transact with the customer and eventually also collaborate with the customer in projects.

The key values of the project are: creating customer intimacy in order to build a long lasting relationship with the customer, to create efficiency gains by automating product related business processes (i.e. spare part ordering) and to provide a single entry point for the customer to all MTNN solutions.

There are some risks identified during the e-business strategy check for the project, which include the reluctance of employees to participate because of fear of becoming obsolete (especially in the sales force) and the big problem of aligning all the various arms of MTNN for a single industry focused approach.

However, the MTN Live portal system will be the lead project, after which a lot of the work can be copied and applied for others supplementary portals. There are also plans to incorporate e-collaboration and a sell-side part in this portal in the future.

4.2.4.1 Opportunities for the E-commerce

E-commerce is an important driver in the macro-environment globalization and pressure on reducing costs (driven by the current negative economic climate). In the future, development of web services can be an important opportunity for MTNN. At industry level customers are requesting more transparent look on MTNN which should be not ignored but viewed from customers' perspective.

Globalization and pressure on reducing cost make customers look for more economic feasible ways to procure their products. These considerations are comparable with the considerations MTNN is making on their procurement side. Therefore it can be interesting for the industry portal team to talk to procurement in order to understand the way of reasoning of the customer. Furthermore customers want to have a single interface towards MTNN on which they can find all information on available solutions, systems and services, as well as connections to ordering tools. The fact that most customers of MTNN are also operating globally makes the internet a logical choice for such an interface.

MTNN can take industry standard XML-schemes to format the information when implementing product catalogues in business solutions especially when ordering product spare parts thereby making it possible to use one standard for internal and external binding of marketplaces.

The MTNN Sellside is currently being developed as part of the industry portal, the MTNN-customer extranets exist currently in the form of EDI connections. Customers have requested MTNN to deliver their catalogs to their internal procurement marketplaces and to third party marketplaces which are used by the customer for their procurement, for instance Mtech. These requests cannot be ignored due to the high bargaining power of the customers.

Therefore it is essential that MTNN makes sure that it can bind to its own marketplaces as well as to external marketplaces (third parties and customer marketplaces), preferably with an industry standard XML-scheme and based on a single source of information.

4.2.4.2 Threats for E-commerce

In the macro-environment, legal issues are becoming a threat for the commerce part of an industry portal. Furthermore standardization issues can become a threat when no single standard arises. On the political side taxation policy can become problematic. The bargaining power of customers and the signs that the big customers already have their own procurement marketplaces can become a threat for the commerce part of the industry portal. As described under opportunities it is essential that MTNN adapts to the wishes of the customers, otherwise the risk that competitors would take that place is high.

Legal issues can become a threat for cross-organizational e-business activities because of the uncertainty about the legal framework in which the activities are regulated and the arrangements for dispute handling in case of problems. Therefore it is recommended that MTNN appoints legal issues in off-line contracts with its customers, especially in the area of Nigerian law regulation. Further international agreements on e-business tax should be followed.

The issue around standardization is also described under opportunities, but it can also be a threat to MTNN. Different standards in the industry which are used by MTNN customers can increase costs, because exchanging information will require transformations of data. This is no threat for the industry portal directly, but for the overall strategy for electronic commerce it is. Therefore it is recommended that MTNN follows the discussions on standards for exchanging catalogue information very closely, and preferably gets actively involved in the discussions and/or the standardization committees.

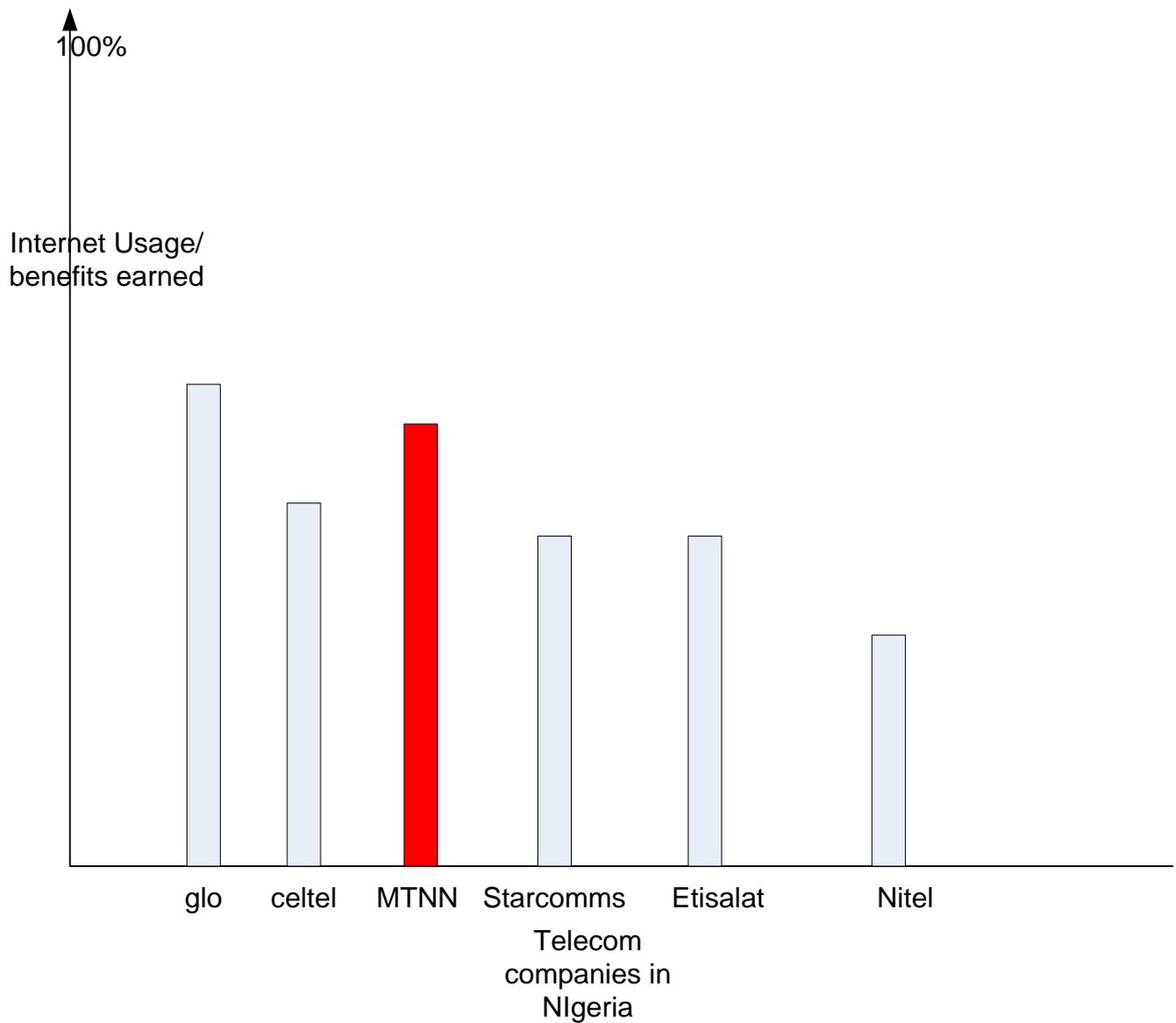
The future around taxation for products and services sold online is not yet clear; neither can the Taxation Framework Condition of Nigeria policy system give a direction. Therefore it is recommended that MTNN follows developments in taxation policy closely.

4.3 Industry description

4.3.1 Competitor rivalry

Rivalry among existing telecom competitors in Nigeria takes many familiar forms, including price discounting, new product introductions, advertising campaigns, and service improvements. High rivalry limits the profitability of an industry. The degree to which rivalry drives down an industry's profit potential depends, first, on the intensity with which companies compete and second, on the basis on which they compete (Porter, 2008). Some of MTNN major competitors are Globacom, Celtel, Mtel, Starcomms, Etisalat, Nitel and so on. The intensity of rivalry among these existing competitors is quite high. Rivals are highly committed to business and have aspirations for leadership; they have goals that go beyond economic performance in the particular industry.

A direct observation of web presence of MTNN and its competitors was carried out based on the following criterion: structure/usability, general services, e-procurement, e-ordering and after sales service one would discover how little information MTNN has for e-procurement compared to others while it has sufficient information on other services. An overview of the completeness of the website, and the position of MTNN compared to its competitors in the graph below shows that they are still behind a competitor-Globacom.



**Figure 6 Comparison of MTNN and competitors Internet site
Johnson(2005) MTN-Nigeria Communication Limited**

Due to relatively small amount of companies in the industry it can be expected that customers are able to compare suppliers easily. A special case is that for the bidding on projects a customer often searches a couple of preferred competitors for the bid. This means that in that case there are only few direct competitors, but becoming a preferred provider requires good references and image.

In the Nigeria Telecom industry the difference between market shares of companies is relatively large where MTNN possesses the largest market share in the country.

According to Porter, this has a leveraging effect on the competitiveness in the industry because of the 'coordinating' role of the biggest player(s). However conversations with people of MTNN suggest that the competitiveness in the telecom industry in Nigeria is becoming tougher, and MTNN is losing its dominant role in telecommunication in Nigeria due to customer high demand and presence of new telecom players.

4.3.2 Barriers of entry

New entrants to an industry bring new capacity and a desire to gain market share that puts pressure on prices, costs, and the rate of investment necessary to compete (Porter, 2008). Particularly when new entrants are diversifying from other markets, they can leverage existing capabilities and cash flows to shake up competition, as MTNN did when it entered the telecom industry in Nigeria in 2001. MTNN found a strong niche for itself in the area of GSM which they have managed to protect over the years. They have skilfully monitored the potential new entrants by holding down their prices, boosting investments and expanding/creating new outlets across the country discouraging new competitors and sustaining their revenue.

Presently MTNN is enjoying some benefits in the country to remain a front liner in Nigeria telecoms, they are:

Capital Requirement:

The need to invest large financial resources in order to compete can deter new entrants. MTNN has a large capital base necessary not only for fixed facilities but also to extend customer credit, build inventories, and fund start-up losses. Telecom in Nigeria requires huge capital to finance projects such as up-front advertising, research and development, this happens to be a major barrier to new entrant but has been gracefully been met by MTNN.

Supply-side economies of scale:

These economies arise when firms that produce at larger volumes enjoy lower costs per unit because they can spread fixed costs over more units, employ more efficient technology, or command better terms from suppliers. Supply-side scale economies deter entry by forcing the aspiring entrant either to come into the industry on a large scale, which requires dislodging entrenched competitors, or to accept a cost disadvantage. Scale economies can be found in virtually every activity in the value chain; which ones are most important varies by industry. In Nigeria GSM sector, incumbents such as MTNN are protected by scale economies in research and consumer marketing. For MTNN, the most important scale economies are found in the supply chain and media advertising.

Demand-side benefits of scale:

These benefits, also known as network effects, arise in industries where a buyer's willingness to pay for a company's product increases with the number of other buyers who also patronize the company. Buyers may also value being in a "network" with a larger number of fellow customers. For instance, most GSM subscribers belong to MTNN due to its large phone network. Newcomers are discouraged because their only chance is to reduce the prices of products and services.

Incumbency advantages independent of size. No matter their size, incumbents may have cost or quality advantages not available to potential rivals. These advantages can stem from such sources as proprietary technology, preferential access to the best raw material sources, pre-emption of the most favourable geographic locations, established brand identities, or cumulative experience that has allowed incumbents to learn how to produce more efficiently. For instance MTNN is currently confronted with tough competitors such as Globacom, Celtel, however MTNN is still pulling ahead because of its incumbency advantage. MTNN has a number of proprietary products and branded services that offers to its customers.

Customer switching costs: Switching costs are fixed costs that buyers face when they change suppliers. Such costs may arise because a buyer who switches vendors must, for example, alter product specifications, retrain employees to use a new product, or modify processes or information systems.

The larger the switching costs, the harder it will be for an entrant to gain customers. MTNN Fastmail and Bizcom solutions are examples of such product with very high switching costs. Once a company has installed any of the solutions, for example, the costs of moving to a new vendor are enormous because of embedded data, the fact that internal processes have been adapted to the solutions, major retraining needs, and the mission-critical nature of the applications.

Unequal access to distribution channels: The new entrant must, of course, secure distribution of its product or service. The more limited the wholesale or retail channels are and the more that existing competitors have tied them up, the tougher entry into an industry will be. Sometimes access to distribution is so high a barrier that new entrants must bypass distribution channels altogether or create their own. Due to MTNN large network and its inception, it has seized many of distribution channels across the country to deliver its business products and services.

Some major barriers to entry that will probably hold back new entrants in the Nigerian telecom industry are: the projects are financially intensive; the image of a company is very important, buyers will ask for references first; the development of technologies requires a long time and highly skilled staff.

The global market also contributes to the challenges for local players to enter the market. An exception here is the low price part of the market, where customers (neighbourhood phone service) buy only small size MTNN products. In this market local companies have a chance for market share, but this market is less important for MTNN since it has varieties of business offerings in the Nigerian telecom market.

4.3.3 Bargaining power of customers

Powerful customers -the flip side of powerful suppliers can capture more value by forcing down prices, demanding better quality or more service (thereby driving up costs), and generally playing industry participants off against one another, all at the expense of industry profitability. Buyers are powerful if they have negotiating leverage relative to industry participants, especially if they are price sensitive, using their clout primarily to pressure price reductions.

Two types of MTNN's customers are individual customers and business-to-business customers (otherwise known as intermediate customers). Buyers of MTNN products and services initially had a very low bargaining power especially during early years of MTNN however as other competitors such as Globacom and Celtel joined the telecom market, the bargaining power rose fairly well. Mobile products and services among the GSM companies became undifferentiated and buyers had alternative choices for their demands. Individual consumers tend to be more price sensitive if they are purchasing products that are undifferentiated, expensive relative to their incomes and of a sort where product performance has limited consequences. The major difference with consumers is that their needs can be more intangible and harder to quantify while Intermediate customers, or customers who purchase the product but are not the end user (such as assemblers or distribution channels), can be analyzed the same way as other buyers but with one important addition; intermediate customers gain significant bargaining power when they can influence the purchasing decisions of customers downstream. MTNN is aware of buyers sensitivity to price therefore it reduces prices accordingly to retain its buyers. The presence of recent telecom player in Nigeria market may improve the bargaining power of the customers and demand on telecom suppliers may equally increase.

Financial institutions like UBA in Nigeria have proposed to MTNN to join their preferred market place and leverage the benefits in the financial sector if they wish to stay a preferred telecom supplier. Another area

that consumers and customers are yet to fully leverage to improve their bargaining power is online bidding (e-procurement). This would allow buyers of products and services to dictate methods to their service provider (MTNN).

4.3.4 Bargaining power of suppliers

Powerful suppliers capture more of the value for themselves by charging higher prices, limiting quality or services, or shifting costs to industry participants.

Powerful suppliers, including suppliers of labour, can squeeze profitability out of an industry that is unable to pass on cost increases in its own prices. In order to analyze the bargaining power of suppliers of MTNN, suppliers of standard material need to be distinguished from suppliers of specialized products. MTNN has a lot of power over suppliers of standard materials, like cables, computers which it orders from wholesalers.

The other supply category consists of specialized products, which can only be supplied by a number of few suppliers. These suppliers have a high bargaining power over MTNN. MTNN has suppliers within and outside the country that have positively contributed to its success. At present due to MTNN position in Nigeria Telecom market and the mutual huge gain, the suppliers have been reasonable in its services to MTNN. Some of its supplier within the country are Computer warehouse Limited, Mtech while some of its suppliers outside the country are JBoss, Microsoft and Sun microsystems.

These suppliers will want to protect the Nigerian Telecom industry through reasonable pricing and assist in activities such as Research & Development and lobbying. Suppliers especially those within Nigeria depend heavily on MTNN for a large chunk of its revenue, therefore their bargaining power is subject to MTNN progress.

4.3.5 Threats of substitution

A substitute performs the same or similar functions as an industry's product by a different means. Substitutes are always present, but they are easy to overlook because they may appear to be very different from the industry's product.

Currently marketplaces like Mtech and Inteli are only offering products, as substitutes to MTNN local products and services. This can make these marketplaces important competitors for MTNN's own marketplaces, especially because many customers are part of the coalitions behind these marketplaces.

Also similar technologies like thuraya, landlines (wired telephone lines) are sometimes substitutes for MTN mobile devices. However the threat of substitute in this case is low as landlines and thuraya no longer offers attractive price-performance trade-off when compared to the use of MTNN mobile devices in Nigeria.

4.3.6 Market and industry developments

Trends in telecom industry in Nigeria is characterised by privatizing of former state owned phone companies and concentration in the branch.

Another trend is the ongoing standardization and modularization of the solutions, services and systems in the industry. This is driven by cost reduction objectives and by requests of customers that want to reduce their spare part inventory.

Something a regional sales manager in the customer analysis mentioned is the importance of personal contact and trust in the business of MTNN. The sales manager argued that he has a close connection with his customers and that building a good relationship, which not only includes talking about business. This has an important impact for the e-business strategy implementation, as personal contact should be taken into account and followed up.

Most of developing countries like Nigeria still have little on infrastructure to conduct e-business and often political embargos for trade pose problems. Also, during a project it is frequently so that supplies are needed locally in a short time, which will require a project manager to contract local suppliers.

Chapter 5

5 Recommendations and Conclusions

5.1 Conclusions

Macro-environment forces and trends

The first and second research questions which were about the macro-environment and industrial forces influencing MTNN's e-business strategy and the degrees of impact have been addressed in chapter 4. The most important macro-environment forces influencing MTNN's e-business strategy discovered from the interviews and online survey analysis have been summarised in the table 3 below serving as a gateway answers to questions six, seven and eight:

Macro environment forces	Focus areas
Political	<ul style="list-style-type: none">- E-business foreign trade policy- Taxation policy- Government attitude towards e-business- Education system
Economic	<ul style="list-style-type: none">- Economic climate- Hype cycle development- Globalization- Price disparity
Socio cultural	<ul style="list-style-type: none">- Trust- Education- Globalization- e-readiness/e-tiredness- Cultural differences
Technology	<ul style="list-style-type: none">- Standards- XML development- Infrastructure development- Technological developments (Web services)
Environment	<ul style="list-style-type: none">- Science and Technology funding- Resource management- Power supply- Equipment renovations
Legal	<ul style="list-style-type: none">- Tax regulation for e-business- Privacy and security laws- Dispute handling regulation- Liability of electronic contracts- Trust

Table 3 Proposed e-business PESTEL framework

Some conclusion that can be drawn from interviews and survey are that the most important impacts as seen by the participants (which are classified as having high negative impact) are political and sociocultural forces, as MTNN has less control over these forces when compared to the other macro environment forces.

Industry forces

The analysis of the industry forces, as described in chapter 4, has been done using Porter's five forces framework. One could also conclude that the most important forces are the high bargaining power of customers and suppliers for products and services. The forces have the capacity to mar or make MTNN e-business system. Interestingly enough, for MTNN the bargaining power of customers is still low especially in northern parts of Nigeria, because of the highly fragmented market with many small local customers. In this branch the competition by local suppliers is a bigger threat. Another important issue that has been found is the upcoming of marketplaces for the specific industry, which could take an important role in making products more comparable for customers and take over the role that MTNN own marketplaces want to play. Also the demand of customers, that MTNN has to bind its systems to the customers' own marketplaces, is because of the high bargaining power of customers which is a vital development. Finally the importance of personal contact in the market for telecom is an important aspect that needs to be taken into account.

E-business strategy of MTNN

The third research question asked what the current e-business strategy of MTNN is. This strategy has been developed during the e-business strategy check and resulted in four focus topics: Supply chain management, e-collaboration, industry portal (e-commerce) and e-procurement. These topics are also driven by corporate and group initiatives, although clear choices on tools and further actions are limited.

e-procurement: MTNN has the tools for e-procurement available, but they are not often used. Goal is to increase the use of e-procurement to cut procurement costs.

e-collaboration: Use of e-collaboration tools can be used to cut travel costs, increase information sharing and bring experts together. Also e-collaboration with customers is planned, bringing reduced response times and increased customer binding.

Supply chain management: Supply chain management is essential for MTNN and can help to reduce non-conformance costs, improve services and integrate e-business aspects with its partners to enhance efficiency and logistic processes

e-commerce: MTNN has to build a single internet interface to the customer containing all functions (information, collaboration, transaction). This has to be pushed by its industry maps projects and bringing customer intimacy and cost reduction in order process and order handing (spare parts ordering).

Impact and trends on e-business strategy

The impact of the found influences on the four focus topics of the e-business strategy is summarised in table 4 below to show the most important opportunities and threats for the four e-business strategy topics, as found in chapter 4.

Strategy module	Opportunities	Threats
-----------------	---------------	---------

e-procurement	<ul style="list-style-type: none"> - standardization - XML-adoption - pressure on reducing costs - standardization and modularization of products - demand of customers 	<ul style="list-style-type: none"> - liability of electronic contracts - standardization issues - bargaining power of suppliers - local suppliers
e-collaboration	<ul style="list-style-type: none"> - Government attitude - globalization - younger generation into power - Request from customers 	<ul style="list-style-type: none"> - lack of trust - lack of e-readiness - bad investment climate
Supply chain management	<ul style="list-style-type: none"> - Unlocks buyer's value and improves buyer bargaining power - Enhanced relationship among business partners - Enhanced efficiency and logistics processes - E-Business integration 	<ul style="list-style-type: none"> - Information technology deficiencies - lack of process alignment and other organisational legacies - Rival cultures
E-commerce	<ul style="list-style-type: none"> - Globalization - web services - pressure on reducing costs - requests of customers 	<ul style="list-style-type: none"> - legal issues - standardization issues - taxation policy - bargaining power of customers

Table 4 Most important opportunities and threats

Framework for future development analysis

Research question six “How do my findings correspond with existing theory in the field?” was to provide an efficient way to analyse the influence of macro environment and industry forces in the MTNN’s future. This thesis therefore presents an adapted version of the PESTEL framework as suggested by Johnson and Scholes. This so-called e-business PESTEL framework is shown in table 3 and can be used as a guidance to analyze the macro-environment for influences on an e-business strategy. The framework contains the forces that are found having influence on the e-business strategy of MTNN, but it is expected that the framework can be used in a broader situation, because of the general character of the topics in the e-business strategy of MTNN. In relation to the e-business PESTEL framework described in table 3 (to precisely analyse macro environment forces around MTNN’s e-business strategy), this should be performed in parallel to the MTNN’s customers, suppliers and emerging competition in Nigeria.

Implications for theory

Research question seven “What may explain the discrepancies between theory and reality?” The view on e-business has not been looked into before now therefore adds insights on the topic. The point of view that the environment does influence the e-business strategy is proven to be right, although the influence found is smaller than initially expected. This can be explained by the limited and restrained information gathered during the interviews, strategy check, and the current unstable situation in Nigeria. Concise degree of impact of these influences on MTNN e-business strategy could be achieved by focusing on projects in the internal environment which are also linked to the external environment.

This thesis gives a empirical starting point of external influences on MTNN e-business strategy and can

serve as a base for further research. The results suggest a link between the attitude towards e-business (influenced by economic situation, trust and experience) and the way e-business strategy is set up and therefore influenced by external factors.

5.2 Recommendations

A few recommendations on how MTNN can respond to the external forces discussed so far are mentioned below, thus answering research question eight "How can the company respond to these effects?":

- Revenue Increase - The Internet opens up a new sales channel, allowing companies to easily reach new markets that were inaccessible to them before. They also have a cost-efficient way to approach new customer segments. Mass customization enables companies to create synergistic new product offerings based on their core competencies. Electronic commerce must be considered one of the critical pillars that can accelerate our Nigeria's economic development, reduce cost of cash production and management, foster transparency. It is more pertinent in our environment considering the population size, geographical breadth and propensity for disorganisation.
- Customer retention - The Internet has introduced concepts like mass-customization, and user profiling, allowing companies to get to know their customers much better. Companies get the chance to act proactively based on previous action of the customer and to personalize new offerings. Different sales channels can be managed in an integrated way, extending goods like plane tickets to parts of Africa with additional personalized offerings like tickets to musicals, limousine rentals, or even information about a special sale in Africa music.
In the business of MTNN the contact with customers is very important. Most projects take long to negotiate, but are big in financial terms. It is possible to build personalized web portals which give each customer the information they need, but the feeling of trust and intimacy that it needed to make a deal will still be reached through the account managers who know their customers and are trusted by them.
- The strong power of the customers' telecom sector, as well the existence of dedicated marketplaces founded by those customers, have an important impact on the MTNN e-procurement tools. It is likely that big customers will require MTNN to adjust to their procurement portals instead of using a MTNN industry portal for procurement for example Mtech. Therefore it is recommended that the necessity of a transaction part on the industry portal is researched more deeply before starting a project with it. This issue is different for some MTNN products like MTNN Fastmail and Bizcom solutions, where it could gain competitive advantage by offering e-business solutions to the industry consisting of many small, local customers, like product ordering through the web with short delivery times, which reduces inventory costs for their customers. This extra service can make MTNN more interesting than their competitors. When the trend to more concentration continues, MTNN already has a foot in the market and this means the possibility for contracts with one company with many locations.
- Related to the adaptation to customer marketplaces mentioned above, it is strongly recommended to look more closely in the possibilities of web services and the use of industry standard XML-schemes. If MTNN can provide a web service that their customers can integrate into their marketplaces or ERP-systems, this can be a competitive advantage. For the use of standard XML-schemes it is essential that MTNN participates actively in the development of these standards and adapts its internal processes to make use of these XML-schemes. It is expected that if MTNN misses this development they will get behind competition dramatically.
- Due to the current economic situation and the reorganization within MTNN a lot of employees within

MTNN are not sure about their job security. This increases the already existing reluctance to share knowledge, the one asset that makes an employee valuable. Therefore it is strongly recommended to suspend big knowledge management initiatives for the moment and focus on knowledge sharing in small groups, in which the participants know and trust each other and thereby introducing the topic stepwise. Furthermore knowledge management initiatives should be embedded in normal processes, in order to make them more natural for employees.

It is also very important that the meaning of knowledge management is communicated to the responsible managers, because as long as they see knowledge management as an unimportant issue, it is not possible to convince their employees to participate.

- The lack of a clear and integrated e-business strategy for all outlets of MTNN is a problem. Especially with issues on platform choice, project planning and best practice sharing it is important to have a clear statement where MTNN wants to be in five years and how they want to get there. At the moment there is a general e-business roadmap for MTNN, but this contains only the projects which are done by the different business units, and then even only the ones that are known. It is therefore recommended that the MTNN e-business staff develops an overall e-business strategy and that the management of MTNN makes a clear statement of the way forward. This can also be important when aligning the e-business strategies with different groups responsible for industry like MTNS and MTNA.
- Two additions to the e-business strategy check are suggested: Firstly, the addition of an extra module that does a macro-environment and industry check based on the e-business PESTEL framework described above and the five-forces analysis of Porter. Secondly, adding the explicit e-business vision at the end of the strategy check in addition to the roadmap, which describes the 'how' and gives an answer to the question 'where the journey is going'.
- Due to the importance of the feeling towards e-business and trust for all projects it is strongly recommended to put extra effort in communicating good results in the organization. Therefore projects on collaboration with Mtech should be followed closely by the e-business department in order to use them as reference cases.
- Related to the latter is the attitude of management towards e-business specific and innovation in general. For the implementation of innovative technologies or processes it is important that management supports it. This requires a top-down attitude change, as well as a change of the way performance is graded. This involves a change of culture, which can take a long time, but is essential for the company. If this is done only on short-term financial performance, the management will not be motivated to look to long-term competitive advantage that can be gained with innovation.
- The internal structure of MTNN is also a problem for transaction through e-business marketplaces, because products sold through an internet marketplace will come on the credit of the central organization, and not on the regional sales manager who has to deal with questions and problems of the customer. Furthermore mostly the regional sales manager is the one with the good customer contacts, and should not be 'punished' if he asks a customer to use an online ordering tool, which lowers the ordering costs for MTNN. Discussions with a sales manager suggest that this is the most important reason why the sales force objects to e-business solutions.
- Keeping up - Today it is no longer a question of whether investing into Internet technology is a good or bad thing, but rather it must be done because the competitors are also doing it in order to keep options open. This allows a company to acquire know-how about Internet technologies early and to direct investments into the areas most profitable to the core company business. This is also the case

with MTNN; customers are asking for collaboration tools, solutions for ordering spare parts, services and products online and see MTNN as a company that knows what to do. Therefore MTNN has to keep in mind not only has to keep up with the competition but also with the expectations of their customers, by implementing best practice sharing programs.

The research performed has given rise to many questions; therefore two possible future research topics are given below:

- To look into the usability of the proposed e-business PESTEL framework in other cases and investigate possible limitation of the framework either in MTNN or in any other telecom company
- To investigate the impact of the web services technology on the future of industry portals and e-marketplaces in Nigeria.

References

- Akano Tim (2007) Seven crucial IT trends for 2008, Thisday Nigeria; pp 17-18
- Alade Mulika (2001) GSM reaches Nigeria. Available from: MTN-Nigeria Communication Limited (2008)-
<http://www.mtnonline.com/>
- Banji Oyelaran, Kaushalesh Lal (2004) Determinants of E-business Adoption: Evidence from Firms in India, Nigeria, Uganda, United Nations University INTECH-Discussion Paper series, Netherlands; pp 44-46
- Daniel Vincent (2008), MTN-Nigeria Communication Limited-
http://www.mtn.com/reporting/operational_review.pdf
- Donald Cooper and Pamela Schindler (1998), Business research methods, sixth edition, McGraw-Hill, New York
- Economist Intelligence Unit (2009) The economist intelligence unit e-readiness rankings, http://www-935.ibm.com/services/us/gbs/bus/pdf/e-readiness_rankings_june_2009_final_web.pdf
- Efem Nkanga (2007) How have Telecoms subscribers fared? Thisday Nigeria; pp 5-6
- El-Sawy Omar (2001) Redesigning enterprise processes for e-business, Irwin McGraw-Hill Boston
- Frances Ovia (2006) Taxation policies brings fears to the telecommunication operators, Thisday Nigeria; pp 10-11
- Frecknall Jane Hughes and Keith Glaister (2001), Electronic commerce and international taxation: A square peg in a round hole? European Management Journal 19; pp 651-658
- Floris P.C, Van Hooft and Stegle A. Robert (2001), E-business strategy: How to benefit from hype, Logistics Information Management 14; pp 44-53
- Forrester Research (2002), E-commerce next wave: Productivity and innovation, Presentation at Seminar on "Revenue Implications of E-commerce", World Trade organisation
(http://www.wto.org/wto/english/tratop_e/devel_e/sem05_e/presentation_m%eringer.ppt)
- Gloor Peter (2000), Making the e-business transformation, Springer-Verlag, London
- The Gartner Group (2001), Climbing the slope to e-business recovery, 14 December 2001; pp 10-12
- The Gartner Group (2001), Hype cycle of emerging trends and technologies, 2 July 2001; pp 3-6
- IBM (2000), IBM e-business, <http://www-3.ibm.com/e-business/doc/content/overview/>.
- Jarvenpaa S.L. and Tiller E.H (1999), Integrating market, technology and policy opportunities in e-business strategy, Journal of Strategic Information Systems 8; pp 235-249

Johnson Gerry and Scholes Kevan(2002),Exploring corporate strategy, sixth edition, Prentice hall, London.

Johnson Okere (2005), MTN-Nigeria Communication Limited-
http://www.mtn-investor.com/reporting/interims_08/pdf/presentation.pdf

Laudon K.C and Laudon J.P. (2001), Essentials of management information systems: Organisation and technology in the networked enterprise, fourth ed., Prentice-Hall, Upple Saddle River, NJ

Levi Obijiofor (2007) Mapping theoretical and practical issues in the relationship between ICTs and Africa's socioeconomic development; pp 6-7

Lumpin G.T, Scott B. Droege and Gregory G. Dess,E-commerce strategies(2002):Achieving sustainable competitive advantage and avoiding pitfalls, organizational dynamics;pp 325-340

Minzberg H. and J. B. Quinn (1992) The strategy process: Concepts and contexts, Prentice – Hall International Journal Editions, Englewood Cliffs; pp 47.

Oyebisi T. O., Agboola A. (2003) The impact of the environment on the growth of the Nigerian IT industry

Porter Michael (1980), Competitive strategy, Free Press, New York; pp 10-17

Porter Michael (1985), Competitive Advantage, Free Press, New York; pp 50-55

Porter Michael and V. E Millar (1985), How information gives you competitive advantage, Harvard Business Review 63(4); pp 149-160.

Porter Michael (2001), Strategy and Internet, Harvard Business Review; pp 63-78

Porter Michael (2008), The five competitive forces that shape strategy, (originally published in 1979).

Pieper Roel, Vincent Koulnhoven and Siete Hamminga (2002) Beyond the hype e-business strategy in leading European companies.

Hartman A., J. Sifonis and J.Kador(2000) Net ready: Strategies for success in the economy,McGraw-Hill,New York

Kalakota Ravia and Robinson Marcia (2001) E-business 2.0 –Roadmap for success, second ed., Addison-Isley, Boston

Shankar Venkatsh, Fareen Sultan and Glen L. Urban (2002), Online trust and e-business strategy: Concepts, implication and future directions, Working paper; pp 65 -69

Spring Michael (2001), The current state of E-business, Department of Information Science and telecommunications, University of Pittsburgh, Working paper;pp 21-23

Spring Michael (2001), E-business Overview, Department of Information Science and telecommunications, University of Pittsburgh, Working paper; pp 20

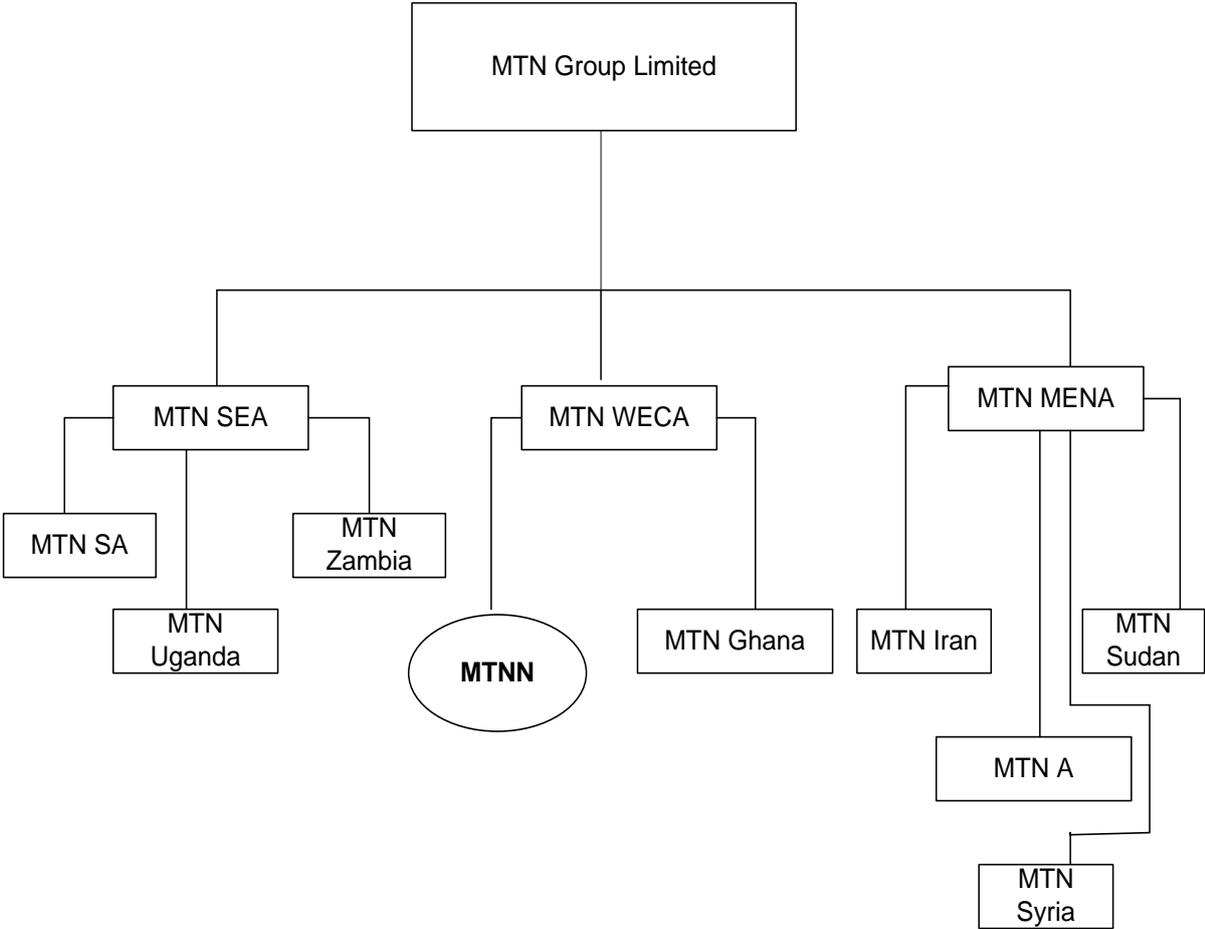
Theodor Irmer (2006) Shaping Future Telecommunications: The Challenge of Global Standardization
Rapid changes in telecommunication technologies and the telecommunications; pp 20-25

Whatis.Com. (2002) Definition of e-business by whatis.com-
http://searchbusiness.techtargt.com/sDefinition/0,,sid19_gci2122026,00%.html

Zhang Liang-Jie (2007) Modern Technologies in Web Services Research, first edition, IGI Global, Hershey,
US

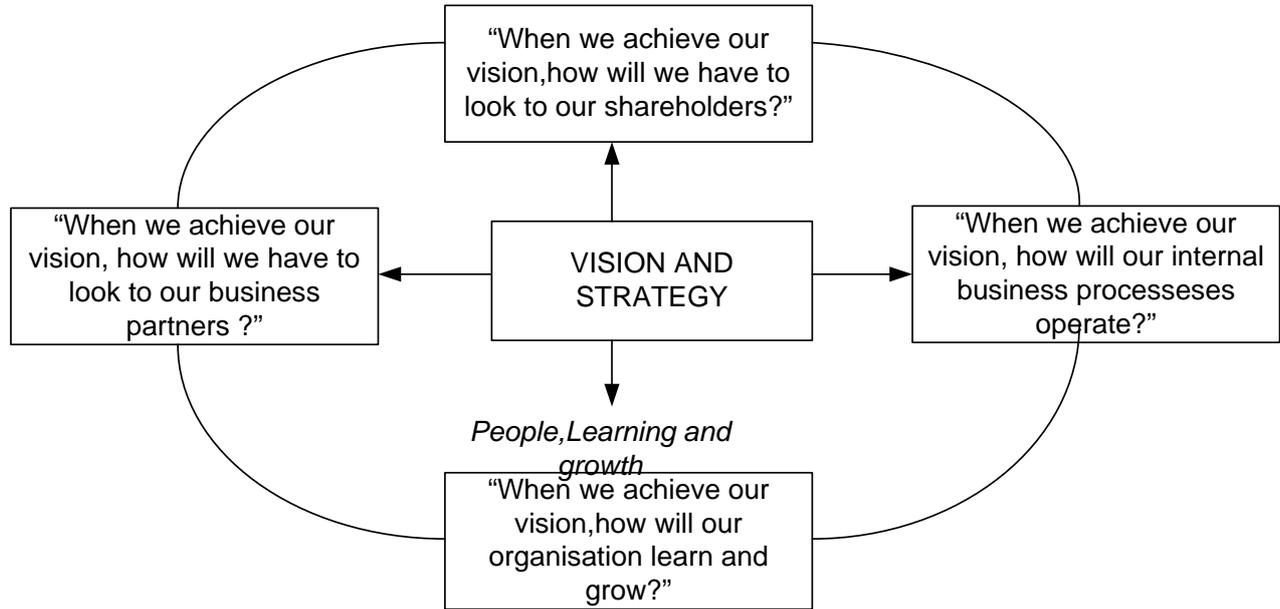
Appendix A

MTN Group Limited Structure consisting of its major players with MTN Nigeria in the circle



Appendix B

MTN Nigeria Balance Scorecard



Appendix C

Gartner's Hype Cycle

Hype Cycle of e-business

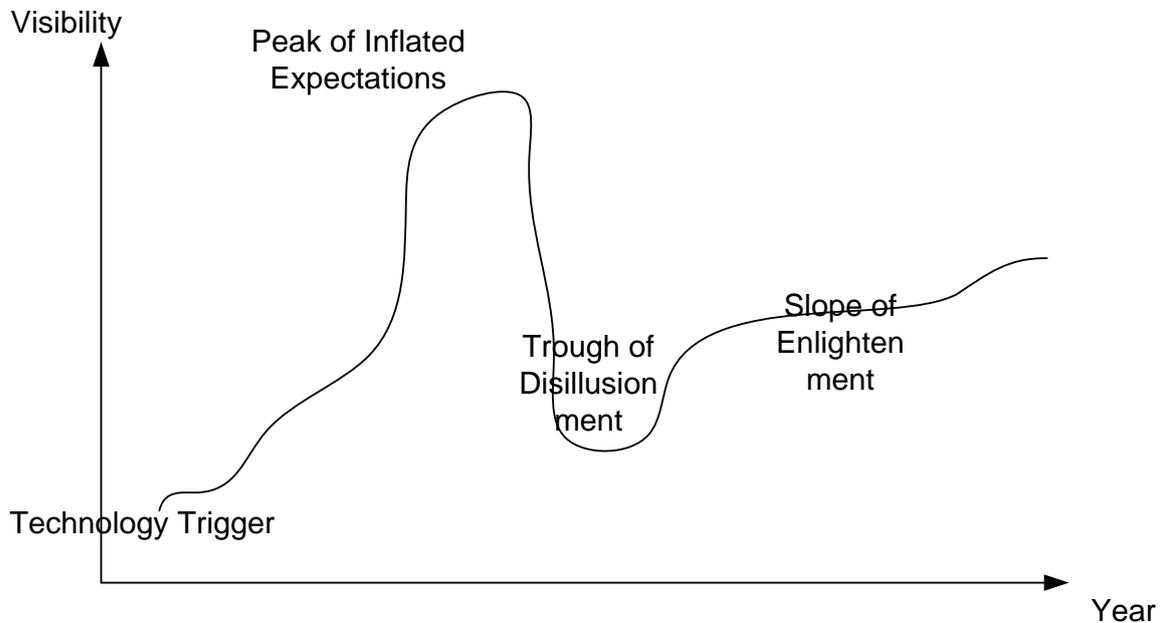


Figure 7 Gartner's Hype Cycle

The Gartner group, one of the leading research companies on IT and technology, has developed the concept of the 'Hype Cycle'. The hype cycle shows the visibility of emerging technologies as they go towards their maturity. Figure 7 shows the hype cycle, which has five distinct phases:

1. Technology Trigger: Significant interest by the industry and press is created as a result of an event like a breakthrough or product launch.
2. Peak of Inflated Expectations: A phase that is characterised by over-enthusiasm and unrealistic projections in which publishers and conference organisers play a central role. Some successes, but more failures, occur as the technology is pushed to its limits.
3. Trough of Disillusionment: The technology does not live up to its over-inflated expectations, and it rapidly becomes unfashionable and is abandoned by the press.
4. Slope of Enlightenment: Better focus and hard work result in a true understanding of the technology's applications, risks and benefits. Commercial standardised methodologies and tools become available to ease the development process.

5. Plateau of Productivity: As the tools and methodologies enter their second and third generation, they are increasingly stable. The real-world benefits of the technology are demonstrated and accepted. The final height of the plateau depends on how broadly applicable the technology is.

The hype cycle for e-business predicts that, as the true value of e-business for organizations arises, e-business will become a mature technology which will eventually be an integral part of business. According to Gartner this will be around 2006-2008, this period is the distinction between business and e-business is over (Gartner group, 2001).

Emerging technologies and trends

The Gartner Group has identified a range of technologies in the '2001 Hype Cycle of Emerging Trends and Technologies' (Gartner group, 2001). These are mapped on the Hype Cycle to characterize the stage of maturity of trends and technologies mentioned and described below. Gartner also presents a "radar" screen, which depicts, for each of the technologies and trends, the estimation of business impact and penetration in OECD (Organisation for Economic Cooperation and Development) nations by 2010.

On the rise

Personal fuel cell technology is still largely in the development phase, but will represent a necessary upgrade because today's batteries will not meet the power requirements of future "always on" portable devices.

The semantic Web vision embraces standards and formal languages for semantically marking up content on the Web. The objective is to make the Web increasingly machine-readable, improving searches and system interoperability and, ultimately, enabling a new wave of automation. This will likely significantly affect all areas of e-business in the next three to six years.

Head-mounted displays will eventually give people full visual access to computer equipment, preferably while mobile. Variations include retinal scanning displays, which augment a person's visual perception.

Synthetic characters are intended to converse with people in natural language to access online information*e.g., Artificial Live, eGain Communications or ActiveBuddy's instant-messenger-based "infobots").

M-commerce - transacting for goods or services via data-enabled mobile phones or PDAs - will be a high-impact trend. It created a good deal of hype recently, but faces tough challenges: security, applications, costs and convenience of applications.

At the Peak

PDA phones, currently combining cellular phones and palm-top functionality, have gained significant visibility. When they provide sufficient features (For example more memory, better screens, longer lasting batteries and MP3 players), Gartner expects adoption to increase steeply.

Web services are software components that can be accessed over public networks using generally available ubiquitous protocols and transports - e.g. SOAP (Simple Object Access Protocol) over HTTP - and are being rightly touted as the next big step in Internet software development. Gartner expects significant savings in time and costs.

Enterprise instant messaging is a tool for real-time communication. By 2004, 60 percent of real-time Internet-enabled communication between people via any means, including voice, text or call-and-response, will be driven through instant messaging technology (probability 0.7).

Digital signatures have become increasingly ready for deployment, but the complexities and costs of a public key infrastructure implementation are still preventing significant investments.

Sliding Into the Trough

Peer-to-peer was hyped by the industry as a breakthrough in computing, but is now sliding fast into the Trough of Disillusionment. Design and management complexity will limit potential deployment benefits for general applications until 2004.

The wireless Web has great potential for m-commerce as well as other applications. However, inhibitors include lack of reliability, sufficient bandwidth, security and proven applications development principles.

Application service provider (ASP) models are still immature; their constant evolution is confusing enterprises. The ASP market is still small compared to the overall IT services market, although it has tremendous long-term potential.

Bluetooth is set to become a defining force in portable devices. However, security issues, lack of support in Windows XP, delays in promised products and interference with other communication technology (e.g. 802.11b) are slowing its adoption.

Several e-business trends and technologies are at different stages of the Hype Cycle.

Business-to-business (B2B) marketplaces and e-procurement are moving into the Trough of Disillusionment fast and we caution that by 2004, viable stand-alone e-procurement application vendors will cease to exist. Survivors will either converge with enterprise application vendors or with e-marketplace vendors (probability 0.8)

A similar downturn has occurred in business-to-consumer (B2C) e-business, where the confusion about return on investment is inhibiting large investments.

Climbing the Slope

E-payments will emerge by 2004 and their adoption will likely be accelerated by several factors. The recent drop in advertisement effectiveness, advances in mobile payment options and Microsoft's new payment option in Windows XP have all brought current business models on the Internet into question.

Voice over IP (VoIP) applications allow for more sophistication and interaction in particularly in the domain of quality of remote audio and video collaboration.

Vendors, not user demand, are driving this market. Enterprises must be cautious about this technology when they adopt it and not be swayed by vendor hype.

Wireless LANs - specifically, 802.11b - have matured in recent years and will provide the primary means of wireless intranet communication for the next several years by satisfying users' demand for high bandwidth at low cost.

Enterprise portals are continuing to mature and are entering their third generation.

Appendix D

Online questionnaire

Welcome to MTN-Nigeria Ebusiness Survey

This survey examines the external forces that influence the e-business strategy of MTN in Nigeria and the impact of their future developments

Skip any question(s) you find too technical to answer

Name(optional):

Email Address(optional):

Profession:

MTN Staff ?:

The magnitude of capital requirements for telecom entry

The magnitude of legal constraints for telecom companies

The impact of MTN brand name

Mention a number of MTN competitors?

Level of competition among Telecom companies in Nigeria

Bargaining power of MTN suppliers

Bargaining power of MTN Sales channels

Bargaining power of MTN end customers

Level of telecom entry barriers

Mention threats of substitute products or services for MTN

Mention barriers to entry into the telecom industry in Nigeria

Strategies used by MTN to create competitive advantages?

What direction MTN is heading as regards non standard products and services, for instance mobile applications, broadband internet etc.



Choose from scale 1..5 ,the level of impact each statement has on MTN-Nigeria ebusiness

	No impact	Low negative impact	Low positive impact	High negative impact	High positive impact
The view of politicians and governments in regard to maintain competitive trading	● 1	● 2	● 3	● 4	● 5
<hr/>					
The way in which email and electronic agreements are seen and accepted as legal binding contracts by individual and coporate customers	● 1	● 2	● 3	● 4	● 5
<hr/>					
Governments view and support for online/electronic contracts	● 1	● 2	● 3	● 4	● 5
<hr/>					
Politicians and government role and confidence in IT systems and the internet	● 1	● 2	● 3	● 4	● 5
<hr/>					
Trade barriers encountered when selling goods and services	● 1	● 2	● 3	● 4	● 5
<hr/>					
Trust,digital signatures and privacy is a political issue	● 1	● 2	● 3	● 4	● 5
<hr/>					
Availability of qualified and trained employees for IT and ebusiness projects	● 1	● 2	● 3	● 4	● 5
<hr/>					
Government influence and regulation on private Telecom companies	●	●	●	●	●

1	2	3	4	5
No impact	Low negative impact	Low positive impact	High negative impact	High positive impact

Choose from scale 1..5 ,the level of impact each statement has on MTN-Nigeria ebusiness

No impact	Low negative impact	Low positive impact	High negative impact	High positive impact
-----------	---------------------	---------------------	----------------------	----------------------

Government influence on telecom infrastructures
(for instance,installation and launching of satellites)

●	●	●	●	●
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

Export regulations influence

●	●	●	●	●
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

The differences in regulations from one government to another
(which sometimes creates a gray area like changes in policies)

●	●	●	●	●
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

Impact of Internal politics ?

●	●	●	●	●
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

Impact of External politics ?

●	●	●	●	●
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

Government impact as a promoter for ebusiness ?

●	●	●	●	●
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

Impact of taxation policy ?

●	●	●	●	●
---	---	---	---	---

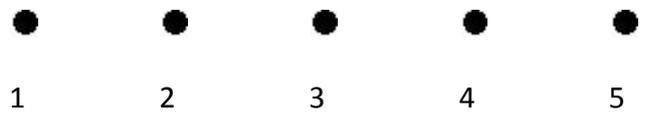
1	2	3	4	5
---	---	---	---	---

Impact of Currency exchange

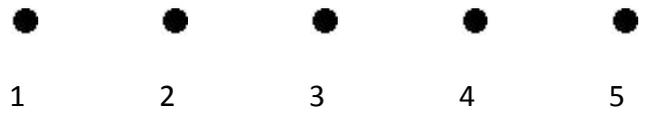
●	●	●	●	●
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

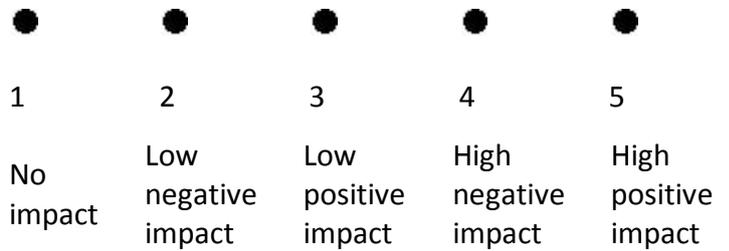
Impact of Customer Relationship Management systems



Long term projects with undefined financial gains but potential high returns

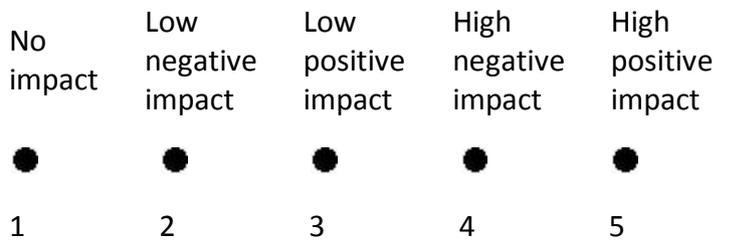


The use of naira as a major currency to carry out its ebusiness projects

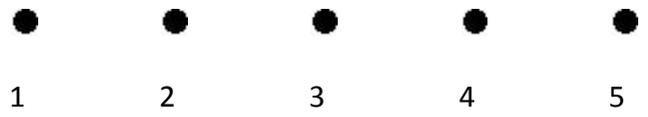


Choose from scale 1..5 ,the level of impact each statement has on MTN-Nigeria ebusiness

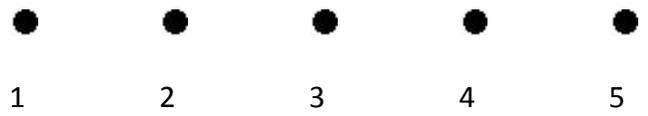
Government spending on research



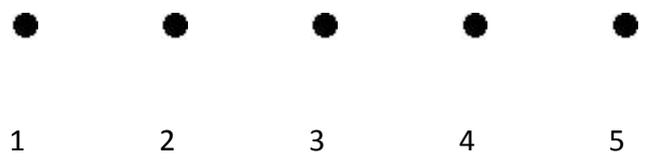
The extent to which Nigeria is conducive for IT based activities



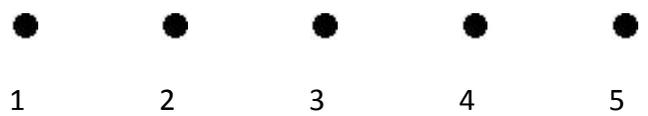
Responses/attitude to MTN international websites



Willingness of customers to participate in online decision system/online configurators(solutions designed based on customer inputs)



Knowledge of the society in which MTN outlets are situated



The effect of diverse cultures across Nigeria



	1	2	3	4	5
The level of education in Nigeria	●	●	●	●	●
	1	2	3	4	5
The level of Internet usage in Nigeria	●	●	●	●	●
	1	2	3	4	5
The impact of fading line between work and leisure globally practiced?	●	●	●	●	●
	1	2	3	4	5
Cultural issues across the country	●	●	●	●	●
	1	2	3	4	5
Knowledge management system(which consist of customers' comments)	●	●	●	●	●
	1	2	3	4	5
	No impact	Low negative impact	Low positive impact	High negative impact	High positive impact
Choose from scale 1..5 ,the level of impact each statement has on MTN-Nigeria ebusiness					
	No impact	Low negative impact	Low positive impact	High negative impact	High positive impact
Effect of the high level of insecurity	●	●	●	●	●
	1	2	3	4	5
The use of common technical standards	●	●	●	●	●
	1	2	3	4	5
The use of Electronic Data Interchange systems	●	●	●	●	●
	1	2	3	4	5
The use of the popular information source XML	●	●	●	●	●
	1	2	3	4	5

Impact and use of lbservice	●	●	●	●	●
	1	2	3	4	5
<hr/>					
The flexibility of xml to describe mobile contents ?	●	●	●	●	●
	1	2	3	4	5
<hr/>					
The effect of handling and management of environmental issues(e.g global warming)	●	●	●	●	●
	1	2	3	4	5
<hr/>					
The way environmental policies are recognised	●	●	●	●	●
	1	2	3	4	5
<hr/>					
Ability to handle the customer request effeciently via several ebusiness channels	●	●	●	●	●
	1	2	3	4	5
<hr/>					
The effect of outsourcing jobs/services (for instance support or software development in countries with highly educated but low wage workers)	●	●	●	●	●
	1	2	3	4	5
	No impact	Low negative impact	Low positive impact	High negative impact	High positive impact
Choose from scale 1..5 ,the level of impact each statement has on MTN-Nigeria ebusiness					
	No impact	Low negative impact	Low positive impact	High negative impact	High positive impact
Product safety and maintenance of good businesses	●	●	●	●	●
	1	2	3	4	5
<hr/>					
The impact of MTN strong name and its public key infrastructure	●	●	●	●	●
	1	2	3	4	5
<hr/>					

Effect of data encryption for etransaction	●	●	●	●	●
	1	2	3	4	5
<hr/>					
Intellectual property protection	●	●	●	●	●
	1	2	3	4	5
<hr/>					
The effect of strict laws on privacy and security	●	●	●	●	●
	1	2	3	4	5
	No impact	Low negative impact	Low positive impact	High negative impact	High positive impact

Appendix E

Fictitious names	Function	Interview dates
Mr.Z	Contact person for the telecoms industry	Nov 7 2008
Mr.C	Application support	Nov 7 2008
Mrs.V	Value Added Services Team Lead in MTNN	Nov 14,2008
Mr.O	Business Analyst in MTNN	Nov 14,2008
Mrs.F	Head of Sales in MTNN	Nov 14,2008
Mr.G.	Head of the e-business department of CelTel	Nov 28,2008
Dr.A	IT Strategy of MTNN	Nov 28,2008
Mr.B	Presales Team lead in Globacom	Dec 5,2008
Mr.S	E-business manager of MTNN	Dec 12,2008
Mr.J	Manager of the I&S e-business and process support team in Nigeria	Dec 17,2008

