A Competitive Positioning Management Information System

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Abstract: Information system is an integrated range of data collection, storage and treatment components, as well as for the provision of information, cards and digital products. Business organizations, for the execution and control of their activities, employ computer technology to communicate with clients and vendors and operate on the market depend on information systems. The exponential proliferation of emerging technology has created a global village for companies, thus creating a volatile world requiring companies to be agile, responsive and resilient to survival. The growing rate of technological progress, combined with a tumultuous socio-political global climate, has created opportunities and challenges for companies especially in the manufacturing sector in terms of productivity and sustainability. Manufacturers in the developed world are trying to build knowledge-based and hands-on information management systems that will allow them to compete competitively on the global market. This article discusses the application of strategic positioning corporate information systems, using a case analysis from a manufacturing business based in sub-Saharan Africa. Their results indicate the need for an integrated management information system that integrates science, knowledge management, and organizational performance and ability-based management activities.

Keywords: Business intelligence, Business process reengineering, IT-enabling business processes, Knowledge management and Strategic management

INTRODUCTION
As in any area of study, management information systems (MIS)[1] may benefit from a context through which past and present research can be categorized and from which new research hypotheses can be produced. Although current models do exist, they appear to be relatively limited in nature. The shortcomings of current models suggest that analysis requires a more rigorous structure or model. Four words will be explained as context for the paper: MIS, information system, information subsystem and MIS analysis. MIS is classified as an organizational information system based on a computer which provides information support for management activities and functions. The term MIS is widely known but the MIS can also be referred to as an operational information system, a computer-based information system, or an information system. MIS scholars have not only focused on management-oriented information systems but also on corporate transaction processing systems. In the purposes of this article, the term "information systems" covers all transaction systems and management-oriented systems, so there would be no effort to differentiate between a management-oriented MIS and a less detailed IS[2].

A full information system is a subsystem set specified by the functional or organizational boundaries. For example, there may be a subsystem for information on inventory management and a subsystem for information on market forecasting. This can be merged into a module for forecasting details on content specifications. Within an information system a single subsystem is referred to as an information subsystem (ISS)[3] or program system.

MIS research is a systematic investigation into the development, operation, use and/or impact of a (sub) system of information in an organizational environment. Producers face a dynamic global climate that embodies threats, prospects and uncertainty. While "the greatest challenge with running a company today is not adjusting to the changing climate," it is because of tradition that organizations will not welcome this modern environment. As this approach may deter firms from becoming competitive on the global market, it is important for companies to develop a comprehensive understanding of the world in which they work. One engine of global productivity is ICT[4], also called IT, which has created the digital village that gives consumers access to utilities or goods everywhere at any time[5].

This has fundamentally improved the way industry is done in the 21st century and demands that producers evolve to become profitable or retain competitive advantage. For organizations to be in a stronger position to receive real-time data for improved decision-making, working in the competitive business climate needs a proactive approach to the application of management information systems. This suggests that if factories are to

adapt rather than stagnate they need to create new technologies. It was noted that "companies using ICT are growing quicker, spend more and becoming more successful and competitive than those that do not."[6]

Stress, however, that it is not easy to build competitive advantage through IT, and argue that this can be due to the lack of "the development by these businesses of a basis for market execution." The added difficulty is that as new advances are made in IT the digital community is continually evolving. Research into success within the global enterprise market in both developed and developing countries suggests that enterprises lack understanding of the ever-changing global environment and do not develop the IT-enabled business capabilities necessary for the emergence of sustainable competitive benefits. Most producers just don't thrive on the global market. Since strategic priorities are not implemented during the introduction and execution of IT, the future gains of IT have not materialized. This has led to factories technologically thriving but still struggling in competitive market terms. These scholars also mention that Business Process Reengineering (BPR)[7] provides reasoning and description for choosing and integrating the best IT structures. This paper focuses on a study that investigated how producers would leverage Successful Positioning Management information systems[8].

The Information Subsystem (ISS)

The second important element for the model is the knowledge subsystem (or application system) represented in Exhibit 6 by a circle which is the product of the production process. In the Information Subsystem, three types of variables are observable elements:

1. Contend ISS,
2. Drop type,
3. Presentation time.

The functionality of the ISS includes measurements of both the data and the decision models accessible by ISS use. The data may be analyzed, for example, from the perspective of precision, source, age, distance, and aggregation degree and time horizon. Models for the judgment can also be defined in a variety of ways. The presentation process consists of the methodologies from which a user is given the details. It will include device range (e.g., digital interface vs. typewriter terminal), presentation style (e.g., graphics vs. tabular report), and special features (e.g., color). The time component can also be described in different ways, including online vs. offline, reporting periods and delay in processing.

Scanning for business environment

Researchers suggest the environmental scanning approach as essential for businesses to retain competitive advantage by describing environment scanning as "a comprehensive way for organizations to identify changes and thereby devise innovative strategies to overcome uncertainties." Environmental scanning "as a sort of radar to routinely search the planet and signal the new, the unforeseen, the major and the small." Such scholars maintain that this is the most commonly accepted way of searching the natural world and predicting, which should be used when an entity begins finding, to name a few, the essential factors that affect the world, such as political, cultural, and social. Challenge view by saying, "It is futile to attempt to forecast the future of human affairs-international, financial, economic or business." In reality, they say that the secret lies in strategic leadership activities as the changing world economy cannot be reversed, or reserved in that regard. An author describes strategic leadership "as the capacity of an individual to predict, envision, sustain resilience, plan creatively and collaborate with others to bring in improvements that will create a sustainable future for the enterprise." However, argues that , in order to gain wider and deeper information by environment scanning, focus should be paid to particular fields, especially in relation to strategic growth, and indicates that the following environment scanning process model (Fig . 1) is appropriate for competitive positioning.
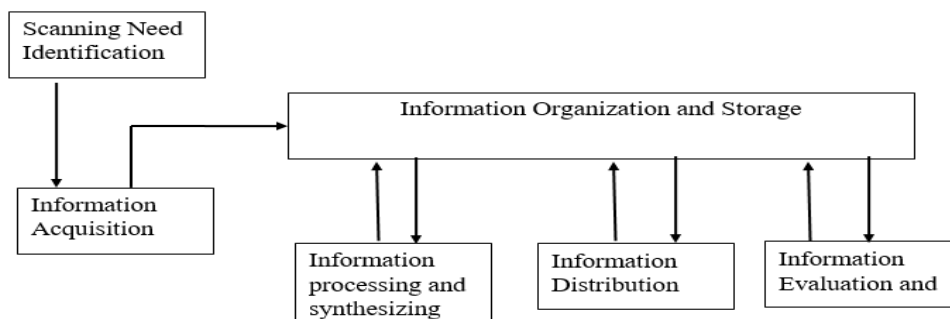

Fig.1: Environment Scanning Model

Developing business capabilities which enable IT

It is unquestionable that progress in creating IT-enabled market capability relies heavily on the knowledge gathered from the method of environmental scanning. In addition, provide proof that "dynamic flexibility allowed by organizational and analytical IT has had positive effects on business process efficiency and corporate

results." In addition, they claim that "IT-enabled dynamic capability enables companies to plan and reconfigure efficiency-enhancing processes, enabling new market types" and "Strategic IT capability contributes to competitive advantage growth." A research describes dynamic potential as "the ability to incorporate, create, and reconfigure internal and external competencies to meet constantly evolving circumstances" and suggests that dynamic capacities have important consequences for environmental turbulence theory and practice. Furthermore, they assert that the nature of dynamic capabilities derives from innovation-based competition from which competitive advantage is gained and suggest that environmental scanning is imperative to develop IT-enabling business capabilities to spot trends and best practices, which is a critical ability in a competitive market. It is critical that knowledge obtained in this manner be carefully investigated and assessed as it may have adverse consequences to operate on the misinformation.

A research suggests that businesses have successfully perfected the technological aspect of operations rather than the company aspect in terms of improving productivity. An author challenges that view by arguing that technology makes it difficult to develop competitive advantage. These scholars argue that in the implementation process, 50-75 per cent of the businesses that struggle to do so. They also dispute the idea, because they agree that businesses usually seek to incorporate the best technologies into their corporate processes. More importantly, it states that: "the commonly accepted view that operational capabilities offer a strategic advantage must be complemented by the realization that current operational capabilities may not match the rapidly changing environment in turbulent environments." Evidence of this emphasis on organizational capability can be found in research that suggests that businesses that have integrated technology in their systems can perform the company's core activities more efficiently and consistently and achieve "higher productivity, enjoy a quicker time to market, and derive greater value from their IT investments.'

Moreover, as described earlier, businesses need to be able to develop, change and reconfigure themselves in tumultuous conditions. Having this in mind, they call for innovative and improvisational capabilities allowed by IT, which incorporate "the ability to efficiently reconfigure internal operating capabilities to suit the growing market environment". To accomplish this reconfiguration these writers, propose a four-dimensional architecture of complex capabilities:

- "Environmental Sensing: the ability to anticipate customer demands and recognize potential internal and external prospects, and the need to improve the organizational capability of the organization. This is essentially the same as 'scanning the world.'
- Learning: acquiring, assimilating and developing new knowledge necessary for reconfiguring operational skills with new knowledge and skills;
- Knowledge integration: the introduction of existing insights into the current organizational capabilities through mutual awareness and common meaning making.
- Coordinating activities: orchestration and deployment of discrete reconfigured tasks, resources and activities embedded in new operating capacities.

The model's four dimensions suggest that current information forms a foundation for future information; as a result, it stress the importance of knowledge management (KM) as an integrative sector of IT infrastructure capability, and one that allows for meaningful transformation.

The Chervany, Dickson, and Kozar Model

Chervany, Dickson, and Kozar seek to separate the main factors that assess the efficacy of information systems. Their analysis, as seen in Exhibit 2, defines the independent variables (factors that determine the quality of decisions) and the dependent variables (factors that calculate the quality of decisions).

The model features several limitations. First, the authors acknowledge not being exhaustive in their list of variables. For example, it doesn't include some quality measures. Afterwards Jenkins expanded the number of applicable variables. Third, the paradigm focuses on user machine interface architecture and overlooks issues relevant to implementation processes. However, this model is distinguished by the definition of measurable contingent and independent variables which makes it useful as an initial analysis system.

In the study line originating from the Chervany, Dickson, and Kozar model, Kozar analyzed the effects of specific computer display media on managerial decision-making effectiveness, Senn examined the effects of condensed versus comprehensive data display and batch versus online decision-making performance, Benbasat researched the effects of IS characteristics and decision-maker characteristics. Barkin studied the impact of consumer cognitive types on IS use, and Jenkins examined the influences of decision makers, decision climate and IS features on decision efficacy and knowledge satisfaction. For their analysis methods both these scientists used a laboratory environment and a model IS. Dickson, summed up a collection of experiments called the "Minnesota Experiments"

The Lucas Model

Lucas provides a concise model of situational, technical, and attitudinal variables and their effect on device use and information system user performance. The model, seen in Exhibit 3, explains how user efficiency affects IS

usage, and how use of the system in turn influences attitudes of users. The Lucas model in Exhibit 3 is a subset of the full Lucas model taken from Lucas' empirical analysis, which provides a simple picture of the supposed interrelationships between variables. For example, from the model it can be inferred that use of the system will impact user performance, that user performance will in turn affect system use, and that personal and situational variables will affect both use and efficiency.

Lucas has taken a more egalitarian approach to actions than many of the other models. He also stressed and established the relevance of behavioral concerns in the sense of technical and systemic issues. In an extensive line of study, Lucas has researched numerous model components but no dissertations have been established as deriving from his model.
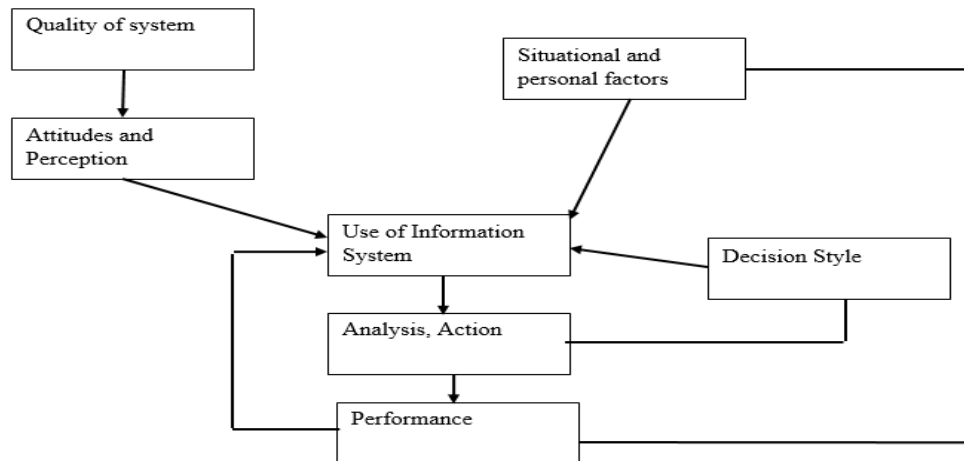

Fig.2: A Descriptive Model of the Use of an Information System and Performance (Lucas).

Mock Model

Mock reflects on the functional limitations imposed upon the program builder. He claims in particular that the IS consumer (i.e., the decision-maker) must work in a fixed financial, psychological, and institutional context. Mock implies interpersonal constraints and factors in the configuration of knowledge affect the output of decision makers. Exhibit 4 demonstrates the five classes of variables and sub classification of variables current with Model.

Mock views all of those factors as uncontrollable from the system designer's point of view. Instead, the essential emphasis is to assess the extent of its impact on the device. Mock reflects on the functional limitations imposed upon the program builder. He claims in particular that the IS consumer (i.e., the decision-maker) must work in a fixed financial, psychological, and institutional context. Mock implies interpersonal constraints and factors in the configuration of knowledge affect the output of decision makers. Below it is demonstrates the five classes of variables and sub classification of variables current with Model.

Mock views all of those factors as uncontrollable from the system designer's point of view. Instead, the essential emphasis is to assess the extent of its impact on the device. Stemming from Mock 's study thread, Vasarhelyi explored the effect of cognitive style on information collection and usage, and King studied the impact of multiple individual / psychological factors on alternate accounting approaches using information quality as the primary criteria.

Classification of MIS Research Variables (Mock)
Single / Psychological Variables
1. Attitudes — empathy, definition of meaning, etc.
2. Analytical knowledge, intellect
3. Discursive Universe
4. Know-how and strategy
5. Perception of goals of organization, rewards, etc.
6. Motivation, Requires Hierarchy
7. Possiblistic solution
8. Functional know-how
9. Erfahrung und Ausbildung
Variables Organizational, Interpersonal
1. Information-system formality
2. Organization / Process of decision
a. Planning, budgeting, process control

a. Niveaux of judgment
c. Type of Leadership (X, Y or Z)
c. Standards, roles, etc.
3. Reward — structure of discipline, method of evaluating the results
Variables in anthropology and the environment
1. Cultivation
2. Legal Scheme
3. Corporate principles
4. Realities Politics
5. Complexity to the environment, noxity, eucity
Variables in the Data System
1. Curiosity and finesse
2. Products
3. Cash
4. Measuring length
5. Honesty and honesty
6. Net worth predicted
Decision Maker Factors in Results
The Gorry and Scott Morton Model
Gorry and Scott Morton find an IS in terms of the knowledge it gives to the management. It is hypothesize that the dependent variables are the knowledge attributes (e.g., accuracy, currency, consumption frequency) that vary depending on the level of managerial operation of Anthony and the relative degree of complexity of Simon in the decision being taken.

The middle line distinguishes primarily organized decisions supported by formal decision-making structures, and mostly unstructured decisions backed up by decision-support structures. In a certain organizational context a given general IS model is applied for a formal decision system. IS production for unstructured decisions focuses on the ability to process details and adapt the decision models to the mission and the individual decisions.

The Gorry and Scott Morton approach focuses on adapting the program to suit the decision-makers' corporate structure, mission and human distinctions. The model describes and suggests many limitations. The emphasis is only on administrative activities: "There should only be information structures to support decisions." Thus types of payments management mechanisms are overlooked. The authors also recognize that their model is static and "not meant to say anything about how information systems are constructed." In the study line emanating from the Gorry and Scott Morton paradigm, Grochow analyzed cognitive styles as a driver in utilizing interactive decision support systems, Alter surveyed 56 decision support systems and defined their development, application and use, and Stabell studied conversational computer system use and the individual variations in managerial decision taking processes.

METHODOLOGY

Empirical research is regularly checked based on the methodology they follow which integrates the correct techniques of execution. Indicates that "the selection of research methodologies depends on the philosophy that directs the research process, in particular on the convictions about the essence of truth and society, the principle of knowledge that informs science and how it can be obtained." This study's philosophical view is that nature is built by the awareness and experience acquired from contact with our surroundings. It fits under the contextual worldview of "a method by which people or organizations ascribe to a social or human issue to examine and appreciate the meaning. The study method involves new problems and techniques, usually obtained in the environment of the researcher. For this reason, a qualitative analysis approach was considered appropriate for this review.

Research approach

The methodological style followed in this thesis stems from the essence and epistemology of qualitative methodology. A study defines qualitative research methodology as "an understanding inquiry process based on distinct and methodological inquiry practices which examine a social or a human question." The thesis used an interpretive analysis methodology with the expectation that the perceptions of the participants could be true or honestly understood because their perceptions were built by beliefs, traditions, history, and so on, which influenced their understanding of the environment. The research tried to explain the operations of businesses using a case study.

Research Strategy

A single case study was carried out using a reputable steel-manufacturing company. This company, in particular, is a leader in Sub-Saharan Africa and South Africa and ranked 21st in the world in terms of the global productivity index for manufacturing. In 2010, the company embarked on re-engineering its business processes to improve overall controls and reduce decision-making cycle times based on new technologies. The firm aligns

with international best practices and a thorough view of the steel industry climate and guarantees its sustained strategic role in terms of profitability and international market presence.

Sampling Technique

A research selection is important to apply a suitable approach to achieve an appropriate number of participants capable of exchanging applicable information. For the collection of these participants purposive sampling is necessary. In short, the study used the aim sampling method to carefully select the participants based on their importance to the research and their level of expertise. The study welcomed 15 participants who were specialists in their respective area of expertise, including system analyst III positions, system analyst, IT specialist, system engineer, system usage and top management positions. Of the 15 participants who were asked, 13 decided to be part of the analysis.

Data collection procedures

The study opted for the semi-structured interview as an instrument for data collection, with the notion that interviews are suitable for gathering in-depth data and allowing respondents to express their views freely. Data was obtained by semi-structured interviews, captured on tape. Furthermore, notes concerning non-verbal interactions were taken.

Processing of data and analyses

The data collected was transcribed into verbatim document text as the participants had presented themselves during the interviews. Additionally, the transcripts were read repeatedly against the tape recordings to avoid errors. In Vivo Coding, contrary to the essence of qualitative analysis, this work was employed as an effective coding technique. As implemented, the coding process loop specifically specifies the following for the whole coding process:

1. "The researcher read each transcript of the interview paper, then wrote down the themes or subjects that arose from each transcript.

2. The researcher then assembled a list of topics learned from all the interviews, and put together the related topics.

The researcher then produced a table that gathered certain topics and put them together. Such classes were composed for popular issues, special topics and the remains.

3. The researcher then defined, and converted them into groups, the descriptive terms from the transcripts which could be used for the generated topics. The researcher then continued to concentrate on growing the subject list by regrouping and combining the subjects that were linked to each other.

4. The last step of the coding process was to finalize the selection of types, and then do the preliminary review.

The data analysis of the descriptive terms and final definitions extracted from the preliminary research was conducted in drawing those conclusions. The concise terms offered straightforward examples of the difficulties and advantages involved with incorporating Strategic Positioning Strategy Information Systems. Meanwhile, the preliminary research led to principles and trends which guided the study of best practices associated with the integration of competitive positioning management information systems. The key point, to put it another way, is that transcripts have been widely analyzed to expand comprehension of potential obstacles and advantages, specifically with regard to achieving competitive positioning. It is worth noting that the aim of this research was not to create a model but rather to implement best practices relevant to the introduction of an information management system.

RESULT

The study endeavored to explore the challenges and benefits associated with integrating competitive positioning management information systems. A single case study was deemed sufficient to fulfill the research purpose, as it would allow us to obtain a wider perspective from one organization's perspectives on the subject. The review of the interview transcripts showed that the incorporation of strategic marketing management information systems is subject to the compatibility of the current market plan with the information management systems. The study showed that there are problems faced with an IT-enabling market cycle about the technological dimension of aligning business strategy. This confirms our literature review findings that globalization has completely changed the global marketplace, creating opportunities and challenges for businesses and their respective nations, resulting in a global shift in talent, technology, science and engineering. The research showed that companies try to strengthen their strategic position on the market through IT-enabling business processes with respect to obstacles and technological issues.

But organizations face difficulties in determining which of the various technology present on the market to use; the management mechanisms of the whole operational system; and the running costs involved. Compared to this case report, the integration procedures faced significant difficulties. Participants engaged in technology evaluation suggested that each of the innovations were objectively chosen for their alignment with the existing processes of the organization. Other innovations according to their expected ability were considered. This is common knowledge that these innovations offer new possibilities as well as challenges.

The following explanations lie in these studies:

1) There was originally a lack of knowledge of the environmental climate dynamics.

2) There is then a lack of alignment between business strategy and business processes which enable IT.

3) The selection and integration of suitable technology is a challenge too.

4) The final obstacle is the failure to guarantee successful implementation of the transition (management of internal change). Adequate research has been cited with respect to gaining a broader understanding of the global environment dynamics. This has been proposed that the most widely used way of obtaining this interpretation is the screening of the environment, which needs to be carried out carefully to prevent missing crucial elements. Consequently, this approach may result in gathering rich knowledge or creativity that can lead to the effective integration of business policy with business processes that require IT. As this process progresses, it is perceived that using the information obtained to formulate a business strategy incorporating IT is the most challenging process, particularly with the variety of advanced technologies.

Our case study also exposed the technical dimension as the difficult one, and the next section would further expand on this. It is acknowledged that it is technical that businesses and countries need to keep up with a rapidly evolving world market in terms of competitiveness.

DISCUSSION

The Internet has built productive partnerships between companies and their vendors, consumers, and the whole company. Companies adopting these improvements have retained their competitive advantage. Some of major companies are Wal-Mart and Toyota. In fact, because of its strength in the global marketplace, Walmart is the company with the most study in terms of competitiveness and innovation. The "monitoring of market demand from points of sale via electronic cash registers by this group, connecting the information to central ordering directly to suppliers around the world, thus removing intermediates in manufacturing and delivery," has helped the company to perform effectively in the current climate. Another trend observed on the global market is that companies and their respective nations are revising their ICT plans and spending billions in ICT services to promote ICT adoption. According to study, "companies using ICT are growing faster, investing more, and being more productive and profitable than those not." As a result, we are seeing businesses revising their corporate strategies to match it with business processes that empower IT, which is increasingly critical for companies to withstand the ever-changing global climate. It was also an aspect that had powered the comparative advantage of sustainability.

To summarize, these are the conditions for the sustainable strategic advantage of the current global developments. To survive this climate, businesses have to expand and deepen their expertise. A research notes that globalization allows businesses to "have many abilities" to keep up with such rapid shifts as "flexible, agile, sensitive and creative." It means global competition would also push businesses to re-examine their approaches more often, especially their development policy, resulting in new innovations such as BI systems, also called decision support systems.

CONCLUSION

The study aimed to explore the benefits and challenges associated with the integration of competitive positioning management information systems, with the suggestion of an integrated management information system framework for competitive positioning. The group chosen for the analysis consisted of 15 participants, 13 of whom replied. The study suggested that companies try to strengthen their strategic position on the market by IT-enabling business processes but face difficulties in terms of the technological dimension of aligning business strategies with IT-enabling business processes. According to this case report, the integration procedures faced significant difficulties. Those have challenged the company in different dimensions, such as technological capability; management skills; cost; innovation; and licensing. This means that IT departments need to supplement those skills in order to properly resolve the threats encountered. It has been found from the literature that, while businesses are overwhelmed by data, they are in dire need for information. The failure to incorporate valuable knowledge derives from the limitations of their management consulting structures and the restricted usage of BI tools involved with strengthening decision-making processes and maintaining strategic intelligence. Author is recommending an advanced management information network for strategic positioning to address the threats our work suggests.

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