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Role of Marketing Information System (MKIS) on Banking Performance: Case of Jordan

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Abstract

The study aims to identify the impact of the antecedents of banking performance in the

banking sector in Jordan. Population of this study consists of bank marketing managers in Jordanian banks, the population sizes of banks used in this study are (150) marketing. Results of this study showed that all antecedents of banks performance (attitude, easy of use, usefulness, market procedural, employee support, customer's knowledge and market responsiveness) have positive and significant influence on banks performance.

Keywords: Marketing Information system, Performance, Banking, Jordan.

INTRODUCTION

The credit system has experienced reformation and restructuring in recent years at both levels of organization and orientation. The banking system has been contributing to facilitate the procedure. Some of the instances of these dynamic changes in the banking industry on a global scale are; innovation of policies, mergers and acquisitions, organizational structural changes, and products and services globalization.

In addition, banks' performance of their functions and duties are significant to the economical growth and development of the nation. As such, the use of marketing information system (MKIS) would be invaluable for banks. It is a system that has the ability to provide an organized flow of information for the maintenance of marketing activities (Harmon, 2003).

It should be noted that the present day's banking clients have adopted a more sophisticated financial attitude and hence, bank operations have resorted to extending from the provision of traditional commercial banking services towards investment services including fund management services, insurance brokerage and other financial services. It is evident that the use of new technology such as computers, Internet, the World Wide Web, and more particularly, banking software and applications can help banks provide their services effectively.

Information systems use in managerial decision making is prevalent in most organizations who are intending to make a name in the market while simultaneously satisfying their customers. More recently, in the context of the Jordanian banking sector, substantial changes have been noted which can be attributed to the advancement in computing and telecommunications. Several Jordanian banks are now utilizing a number of information systems such as online services as prevalent in Europe (Jun & Cai, 2001). One of the most commonly used information system by the banks marketing section is the MIKS which enables them to make decisions concerning their products and services. Theories concerning market orientations antecedents and consequences affect the performance of any business (Narver & Slater, 1998). In turn, the market information systems adopted by banks effectively monitor and document these market orientations. Jordanian banking sector has now come into age what with the various transformation that it has gone through like banks merger and acquisition. Banks have also gone through various developmental phases in the hopes of enhancing their provision of services. However, empirical studies of MIKS are few and far in between in the Jordanian banking industry's literature. Thus, this calls for a need in the investigation of the MKIS role in enhancing Jordanian banks marketing performance.

Accordingly, the primary objective of the present study is to investigate the role of Marketing Information Systems in the Jordanian banking sector. This objective is achieved by reiterating the primary objective into sub-objectives; 1) to determine the relationship between ease of use and usefulness and attitude, and 2) to determine the relationship between attitude, market procedural improvements, employee support, customer knowledge and market responsiveness, and bank performance.

LITERATURE REVIEW

The increase in technological evolution, internalization and the consumerism of completion are some of the conditions in the market that increases the competitive intensity levels. Avlonitis and Gounaris (1999) stated that dealing with such challenges require companies turns to be adaptive to their respective market environment. In order to deal with achieve this objective; Information Technology based marketing information systems are very resourceful towards this direction (Talvinen, 1995). The marketing concept and the related concept have been of important components of the marketing academic and practice for quite some time. The fundamental importance attributed to this concept has triggered numerous projects while attempting to explore its application and relationship with other variance that affects business performance (Slater & Naver 2000). The marketing management has certainly played an important role to describe the most widely accepted view of the marketing philosophy and guidance for the implementation of the concept (Kotler, 2000). The implication of the statement above by Kotler is that the concept hinges on four pillars namely target market, consumer needs, co-ordinate marketing and the profitability. This view has been a guide to Narver and Slater (1998) conceptual model of market orientation.

Internal dimensions of MKIS effectiveness

The important benefit an organization that uses the MKIS is the high improvement in the reporting system. As a result of the information system processing of the raw data collected, the system becomes faster. When employees query the system for data analysis, information retrieval becomes even faster. Therefore organization's management is able to relate important information promptly from different sources within an organization (Van Bruggen et al., 2001). Without information system as intelligent as MKIS vital information needed by companies will be almost impossible to integrate all pieces of information without the proper information system infrastructure. It is also important to note that the main function of MKIS applications is to integrate inputs from various organizational functions into a holistic and meaningful map of company's activities, depicting its interactions with suppliers, customers, and so on. As long as the MKIS is been applied in a timely fashion, decision making is facilitated by relying on the fact and figures more than gut-feeling and intuition (Van Bruggen et al., 1998; Talvinen and Saarinen, 1995. McDonald and Payne (2005) stated that the decision making through MKIS is a major prerequisite for developing realistic and successful marketing plans; this in turns affects both the company's marketing planning process and the outcome of this process (Amaravadi et al., 1995; O'Brien et al., 1995). Therefore, the result is improvements in the marketing planning effort among many other consequences, a positive direct effect on marketing operations. The adoption and usage of MKIS in most organizations they eventually become capable of transforming marketing intelligence into concrete benefits for their customers (Brady et al., 2002). This invariably, enables organizations to enhance their marketing operations, conduct

superior forecasting accuracy with superior understanding of customer's needs. This enables banks to conduct smooth customer reception and service-related operations to keep track of peaks and troughs of demand (Gounaris et al., 2007).

Other elements of organizational internal strategies capabilities are related to the human factor coupled with the management of the internal relationships. It could be stated that successful companies stand out from their competitors through their internal climate and the level to which marketing employees experience high job satisfaction levels. More importantly, such companies are distinct owing to their employees' function of the job description, individual capacity to adhere to job specifications and interpersonal relationships at work.

The MKIS effect upon the organizational human capital is quite significant in light of job satisfaction and performance. The IT based MKIS adoption leads to the enhancement of employee communication in the marketing department where information are simple and fast moving and hence, minimizing management-employees conflict. Moreover, organizational decision making becomes structured by objective information and data produced by the system.

Another significant contribution is the enhancement of job descriptions along with the tasks nature that employees in the marketing department are expected to accomplish. With the superior IT based MKIS, organizations have higher potential to automate most of the routine tasks that constitute parts of many jobs (Brady et al., 2002). Hence, employees have ample opportunities to conserve time and steer clear of complexities related with the routine and tedious tasks' execution. The information integration in the MKIS facilitates the building of a clarified picture of customers' needs by marketing executives which enables the latter to perform their job descriptions better especially with sales and customer service.

The External Dimensions of the Effectiveness MKIS

The ability of the MKIS to monitor the company's market environment more effectively is an important benefit to the organization that uses it. This is realized mostly in the area of customer relations by assisting the sales/marketing people and managers to meet their marketing objectives (Speier & Venkatesh, 2002). Thus, organization will then understand the needs, wants and expectation of the target customers (Colgate, 2000), so long as the needs and wants of the customers are known, customers expectation can be easily perceived and responded to in due time (Nakata & Zhu, 2006). The clear marketing strategy and the intelligent support of the IT allow the information system to understand the person behind the transaction as well as monitor the transactions (Davenport et al., 2001). In addition, understanding the clients and consumers behavior does not only allow the organization to understand the clients present needs but also their future needs satisfactorily well. Therefore the customer satisfaction will increase and the company will have an upper hand in the market share.

The contribution of MKIS to improving the effectiveness and the efficiency of the marketing and communication efforts is also of importance, because the process of developing new products, re-branding or modifying existing products can be aligned with the needs and expectation of clients and customers which in turn allows for a higher rate of successful product launches and therefore the efficiency of the market efforts will be

increased. There will also be increased and efficient communication within the system because the company will have a better understand of the customers' media habits individually and collectively. The known customers reaction to communication media will invariably reduce wastage in media resources; therefore the need for direct marketing can be realized. Thus improvements in the implementation of the marketing strategy is increases the company profitability (Colgate, 2000).

Interrelationships among Internal and External Dimensions of MKIS Effectiveness

Quinn and Rohrbaugh (1983) gave a consideration to the notion of the organization effectiveness with a suggestion of four major factors which are; stability and employee centricity (internal process dimensions), and flexibility and organizational efficiency (open system dimensions). The degree of the effectiveness of any organization does not necessarily simultaneously excel under the four factors.

In a related study, Kalliath et al. (1999) discussed that expected zero correlation exist between open systems and internal process dimensions of effectiveness and does not necessarily apply in all circumstances .For instance, under conditions of turbulent, radical change, the company's management becomes proactive in responding to anticipated changes in the environments. As a result, a paradox that arises concerning the coexistence of stability and order (internal process values) since coping with such conditions frequently calls for organizations that are simultaneously stable and dynamic (Gounaris et al., 2007). Nevertheless, the work of Buenger et al. (1996) gave empirical support that there is possibility that organizations emphasize multiple effectiveness criteria. The implementation of MKIS can change the role of the marketing function radically and help to increase the company's degree of customer orientation (Nakata and Zhu, 2006). This will therefore increase its procedure, customers' service and also the ability to innovate. The implement the necessary changes the management will have to retain control over the organizational re-engineering that these changes bring about. MKIS and Organizational Effectiveness: Concurrent Validity.

With the clarification on the dimensions of MKIS effectiveness and their interrelationships, it is of paramount importance to note the issue of current validity using the scope of a specific study to derive an empirical instrument for its measurement and validation. The concurrent validity of the instrument is essential because it shows the extent to which "one measure of a variable can be used to estimate the current score on a different measure of a closely related variable" (Tull & Hawkins, 1987). Therefore accessing the degree of concurrent validity of an instrument requires measurement of its ability to explain a significant amount of variance in a related variable.

Studies have reported that organization theories focused on understanding the concept of organizational effectiveness. Gounaris et al (2007) state some related authors of models that have been seeking to capture the construction of the organization effectiveness, but of them all Quinn and Rohrbaugh (1983) has gained more prominence and wide acceptance. Quinn et al (1983) suggest that organization effectiveness is derived from three factors which are namely: the organization's primary focus, its structure and, the means-ends that it pursues (Gounaris et al, 2007). The merit of this competing values model is its power to simplify the large number of effectiveness criteria and yet synthesize them in a meaningful manner. According to this model, the three facets of organizational effectiveness, when combined, generate four "dimensions" are:

the human relations dimension, capturing the organization's ability to manage personnel-related issues; the internal process dimension, capturing its ability to manage its operations; the open system dimension, capturing its ability to align itself with the environment in which it operates; and the rational-goal dimension, capturing its ability to attain its goals and objectives. The first pair is differentiated from the second in that they have, respectively, internally and externally orientations (Gounaris et al, 2007).

RESEARCH FRAMEWORK

According to Okazaki (2005) branding strategy, location-based services, and service costs were determined to be the most important managerial factors in establishing some business model, while facilitating condition, regulatory control, and cultural barriers were the most relevant environmental factors for such models. However, we incorporated a variable "ease of use" model of the Technology Acceptance Model (TAM) as part of the theoretical foundation for the development of the theoretical framework. This shall assist us in measure the satisfaction of the MKIS. TAM posits that perceived usefulness and perceived ease of use determine a person's behaviour while applying and using an accepted technology. The applicability of an extended version of the TAM was tested by Wang et al. (2003) in Taiwan. Probing those factors that lead to behavioural intention, the authors found evidence that perceived ease of use, perceived usefulness, and perceived credibility all had a significant positive effect on people's intention to use an information system. There are four models that are used to measure the effectiveness of MKIS, these are: Internal Process Model, Human relations Model, Open System Model (OSM) and Rational Goal Model (RGM).

These models are used in measuring the performance of an organization using the effectiveness of MKIS. Conceptualization of the MKIS effectiveness must be developed into a measuring instrument for experimental application for data collection. In a previous study Gounaris et al (2007) combined the important four models to measure the effectiveness of MKIS in some organization. The instrument developed by Gounaris et al (2007), is capable of revealing the effectiveness of the MKIS in an organization in both internal and external components, relating to the extent to which the user organization improves functional effectiveness and corporate climate and on the other hand to its adaptability to market conditions and its customer responsiveness. The authors inferred that a validated measure of the effectiveness of MKIS has important implications for both users and providers. The validated instrument conceptually permits improved understanding of the components of effectiveness. Pragmatically, the instrument provides an assessment of the effectiveness of existing or new systems. Return on Investment and Sales growth are the two main elements that was described by Pelham (2000) in measuring the performance of an organization, hence it is used in this study. Drawing on the above factors, this study proposes a model that helps to understand the roles of MKIS in the performance of Jordanian banks as shows in Figure 1.1.

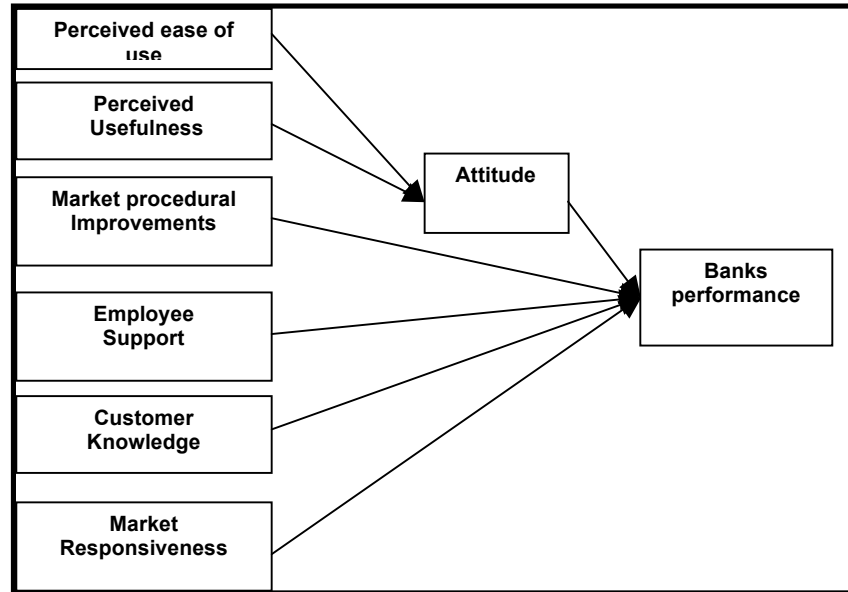


Figure 1: Research Framework

HYPOTHESIS

Based on model of this study, hypothesis is research are:

H1: There is a positive relationship between Attitude and bank performance.

H2: There is a positive relationship between ease of use and attitude.

H3: There is a positive relationship between Usefulness and attitude.

H4: There is a positive relationship between market procedural improvements and bank performance

H5: There is a positive relationship between employee Support and bank performance

H6: There is a positive relationship between customer knowledge and bank performance

H7: There is a positive relationship between market Responsiveness and bank performance.

METHODOLOGY

In this study, the populations selected are within the in the banking sector of Jordan. The populations are bank marketing managers in Jordanian banks, in order to determine the research objectives. In addition they can influence on management decisions. The number of sample needed will be about 85 to 100 selected based on Sekaran's (2007) rule of thumb tables. To identify the sample, we will use proportionate stratified random sampling among banks marketing executives and managers, the questionnaire will be distributed as the researcher will determine the correspondence in both public and private banks in Jordan.

Sampling is any procedure or method that uses a small number of items or those users part of a particular population to make a conclusion regarding the whole population. Therefore a sample is a subset from a larger population. The main reason why sampling comes in to play is because it is practically impossible to collect data from every element of a population neither is it possible to test or examine all the elements. Hence, in this research, the population sample is chosen from the marketing managers from banks in Jordan. This is to prepare better acquisition of data and information if compared to the whole population. Probability sampling design is when elements in the population have a known chance of being chosen as subjects in the sample. It can be either unrestricted (simple random sampling) or restricted (complex probability sampling) in nature. It's different with non probability design where the element in the population does not have any probabilities attached to their being chosen as sample subjects. This implies that the findings from the study of the sample cannot be confidently generalized to the population.

In this context of this research, the sampling designed used is the simple random sampling. Thus, the study is interested in acquiring information from bankers that makes use of MKIS. Therefore, banks managers used as the population for study. Thus, every element in the population has known and equal chance of being selected as a subject in the study. In this research, the population sizes of banks used in this study are (150) marketing managers, In the process of conducting the main study, 150 questionnaires were distributed to bank marketing managers in Jordan banks during February 2010. Out of this number, 10 were undelivered, and 5 questionnaires were incomplete (missing responses). Thus, a total of 135 responses were usable for subsequent analysis, giving a response rate of 90 % (Table 1.1).

Table: 1.1: Summary of Response Rates

150	Questionnaire administrated
10	Undelivered
5	Uncompleted
135	No. of responses
(135/150) 90 %	Response rate

FINDINGS

Reliability and Normality

The Cronbach's alpha was computed to assess the items score of each of the independent variable ease of use, usefulness, attitude, marketing procedural improvement, employee support, customer knowledge, market responsiveness and the dependent variable bank performance score. Each construct shows Cronbach's alpha readings of acceptable values above .60 (Hair et al, 2006). Reliability values for all constructs range from .70 to .84. This implies that the items form a scale with internal consistent reliability. As shows in (Table 1.2) gives detailed explanation of the reliability of each variables.

Table: 1.2: Summary of Reliability Test (n: 135)

Variable Name	Item Number	Cronbach's Alpha
Ease of Use	7	.72

Usefulness	7	.84
Attitude	5	.74
Market Procedural Improvement	4	.78
Employee Support	4	.84
Customer Knowledge	4	.70
Market Responsiveness	4	.75
Bank Performance	5	.84
Total	40	

Correlations between Variables

Appendix (A) shows the evidences for relationship between variables from the analysis test. To observe the correlation between variables, Pearson Correlation was used in this study. Appendix (A) depicts EOU, USE, ATT, MRI has < 80% relationship on the performance of the banks according to Hair et al. (2006) while ES, CK, MR has 80-90% effectiveness level on the performance of the banks. According to pallant (2001) point out that the value of correlation between independent variables more than .90 considers Multicollinearity. Therefore, no

Hypotheses Results

As shown in Table 1.3 the results of hypothesis is based on research objectives, Results of the analysis indicated a statistically significant relationship between all independent variables and dependent variables $p > 0.05$ and $t > 1.96$ as recommendation value (Hair et al., 2006). This value indicated the strength of the relationship between independent variables and dependent variable and all hypothesis of study were significant effects (supported). This means that all variables selected of independent variables were suitable for support problem statement and objective of study.

Table 1.3: Direct impacts between variables

H	FROM	TO	t	Sig	Hypothesis' Support
H1	ATTITUDE	PERFORMANCE	8.819	.000	Yes
H2	EOU	ATTITUDE	11.601	.000	Yes
H3	USE	ATTITUDE	13.791	.000	Yes
H4	MPI	PERFORMANCE	13.138	.000	Yes
H5	ES	PERFORMANCE	34.136	.000	Yes
H6	CK	PERFORMANCE	18.346	.000	Yes
H7	MR	PERFORMANCE	13.138	.000	Yes

DISCUSSION

The present study is an attempt to investigate the relationships between ease of use and usefulness, and attitude along with the relationships between market procedural improvements, employee support, customer knowledge, market responsiveness, and bank performance. For the purpose of answering the research objectives, some effective factors were obtained from the related theories concerning new technology adoption,

particularly the technology acceptance theory (Davis, 1986) and the organization effectiveness which stems from a version of the organization theory (Quinn & Rohrbaugh, 1983).

The research model of this study is designed based on the derived factors concentrated on the MKIS role in banking performance. The sample is obtained from the Jordanian banks marketing managers. On the basis of the study's results, the effective factors determining the role of MKIS in bank performance are highlighted. These factors include non-economic relative advantages such as age, cost, social character and attitude towards IS while the economic relative advantages comprises of return on investment, sales growth, and customer and market information.

Practical implications for bank management are evident from the results obtained. Identifying the needs of IS practitioners is one of the first steps in conducting applied research. Accurate identification of study issues enables the acceptance of the role factors importance like ease of use, usefulness, attitude, market procedural improvement, employee support, customers' knowledge and market responsiveness in MKIS use to the performance of the banking systems. Majority of the respondent in the study (70.6%) owns degrees which indicate high level of literacy in the marketing information system usage. In addition, attitude towards use is positive because the system use is much important to employee job satisfaction and maximized productivity which leads to bank's increased performance.

Moreover, the results of tests including correlation, regression and multiple regression which asses the variables and the empirical relations between ease of use, usefulness, attitude, market procedural improvement, employee support, customer knowledge and market responsiveness revealed them to be positively related to bank performance which support the hypotheses.

Furthermore, the findings revealed that ease of use, usefulness and attitude significantly determines the MKIS use while market procedural improvement, employee support, customer knowledge and market responsiveness significantly determines the MKIS effectiveness in the improvement of banks performance. On top of this, the findings also revealed advantages of developing and utilizing MKIS towards the marketing function in the form of improving bank's ability to process information expediently from different internal sources in the bank (Van Bruggen, et al., 2001). This leads to the facilitation of timely decision making and timely response of marketing department to needs and expectations of customers through their accurate details (Talvinen & Saarinen, 1995; Kelley, 1993).

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Hypotheses Results

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DISCUSSION

As mentioned earlier, this study attempts to examine the relationships between ease of use and usefulness on attitude, and attitude, market procedural improvements, employee support, customer knowledge, market Responsiveness and bank performance. Furthermore, to answer the objectives of research, some effective factors were extracted from related theories to adoption of new technology, one of which is technology acceptance theory (Davis, 1986) and organization effectiveness which is a grounded version of organization theory (Quinn & Rohrbaugh, 1983). Based on the derived factors, the research model for the study was designed and the study focused on the role of MKIS on banking performance. The sample was drawn from marketing managers in Jordanian banks. Based on the results of the study, the effective factors that determine the role of MKIS in bank performance were identified. The factors consist of non economic relative advantages such as age, cost, social character and attitude toward information systems. The economic relative advantages consist of return on investment, sales growth, customer and market information. According to the results practical implications for banks can be derived. One of the initial steps in conducting applied research is to identify the needs of Information Systems practitioners. The proper identification of issues in the study makes us to acknowledge the importance of the role of factors like ease of use, usefulness, attitude, market procedural improvement, employee support, customer knowledge and market responsiveness in the usage of MKIS towards the performance of banking system. The fact that 70.6% of the respondent in the study owns a degree shows a high level of literacy in the use of the marketing information system. This explains the reason why the attitude towards the usage is also positive as the use of the system is much importance to employee job satisfaction and increased productivity which invariable increases the performance of the bank. The result of correlation, the regression and multiple regressions in assessing the variables or the empirical relationship between ease of use, usefulness, attitude, market procedural improvement, employee support, customer knowledge and market responsiveness were positively related to bank performance has hypothesized. The positive associations between all independent variables ease of use, usefulness, attitude, market procedural improvement, employee support, customer knowledge and market responsiveness was supported. From the results the study supports the inclusion of the factors that influences the role of MKIS in the performance of banks. Results from the study shows that ease of use, usefulness and attitude are significant determinants of usage of MKIS while market procedural improvement, employee support, customer knowledge and market responsiveness are significant determinants of the effectiveness of MKIS in the banks to improve the banking operation performance. However the study

also reveals the benefit to the marketing function of developing and using MKIS because the use of MKIS can improve organization ability to process information quickly from various internal sources within the bank (Van Bruggen et al., 2001). Such occurrence will facilitate prompt decision making and it will make the employees in the marketing department to respond faster to customer's needs and expectation, because they have a clear details of them (Talvinen& Saarinen, 1995; Kelley, 1993).

Suggestion for further Research

The limitation of this study has provided its implication for future research. The conducted study with random sampling gives a glaring picture of the factors that influences the role of MKIS in the performance of banks in Jordan. Since the study has focused on some factors that influence the role of MKIS in the performance of banks in Jordan, other factors could be explored. The level of adoption also could be investigated. It is also suggested that future research could be done in different geographical location in the country with indebt analysis and make a comparison with the result obtained in this study. Since this study is on the role of MKIS on the performance of banks with views from the managers, it could also be extended to market analyst and retail marketers that make contacts with customers on a daily basis. Further study could also make comparison between the usage of the MKIS at the lower management level and upper management level to discover the factors that influences the effectiveness of the marketing information system and the disparity in the behavior of the lower management level staffs and the upper management level staffs.

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