

■ **INTEGRATING MMIS CORE PRODUCT AND SERVICE
OFFERINGS IN B2B CONTEXT: IMPLICATIONS FOR
PROVIDERS**

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Abstract

The paper presents findings in the second phase of a two-year research project. In the first phase, the aim was to investigate perceptions and attitudes regarding choice decisions of MMIS products and services in Greece utilising interviews with directors. Three main categories of criteria namely, “supplier’s name and reputation”, “financial terms of acquisition”, and “customer support service” were identified as elements that influence choice decisions. In the second phase, data collected through a questionnaire survey of the same directors was used to test the theoretical model. The aim is to empirically identify the dimensions for MMIS selection and performance evaluation and their relative importance and discuss implications for marketing strategy. The paper also discusses weaknesses associated with the ineffective consideration and adoption of marketing concept by industrial providers. Results suggest that the more the companies are embracing the marketing concept, the more likely is that the gap between expected and actual utility of MMIS increases at the expense of rendering services by the latter. Implications of this research for practitioners are also discussed.

Keywords

MMIS, Selection and Evaluation Criteria, Marketing Strategy

Introduction

The increasing tension in competition among companies raises the standards of expected performance. As a result, at a strategic level, the conflict points and the areas for potential competitive advantage have been well outlined. The mapping was based on the framework of the continuously improving company, which learns, evolves, and improves as a living organism. This has brought to surface important aspects of factors that have not been given due emphasis in the past.

Information is considered as one of the fundamental factors to the creation, development and success of organisations (Kelly, 2005). There is an increasing realisation of the importance of timely, valid and reliable information as well as the technological infrastructure to support this. This is evident from the companies' expenditures for information technology, which the last decade has raised by 45% (Mandel, 1997). The use of information systems covers all the fundamental operations of an organisation; financing, production, marketing, human resource management, logistics. Marketing was one of the first operations where information system appeared (Kotler, 1966). Today, more than 90% of Fortune 500 enterprises have a MMIS or relevant computer based programs (Lee et al., 2001).

Information technology sector becomes more and more competitive and in that way suppliers have to provide the right product and services if they want to remain and succeed in the marketplace. In this sense, customer value has to be examined so as providers to use the appropriate marketing mix and tools. Evidence from the Greek business context supports the argument that MIS providers do not utilise effectively the marketing philosophy and tools (Manthou et al., 2001).

The paper presents the second phase of a two-year research project. In the first phase, the aim was to investigate perceptions and attitudes regarding choice decisions and the provision of MMIS products and services in Greece utilising in-depth interviews with company directors (a total of 128 interviews). In the second phase, a questionnaire was

developed based on the findings in phase one regarding the main factors affecting choice decisions in the selection of MMIS products and providers (a total of 83 questionnaires – excluding company cases in period t2 with a new person appointed as MMIS director). The purpose was to test and confirm the relationships among factors identified in the previous phase. Among other factors, the research highlights the importance of customer service within the marketing prism and its contribution to more satisfied customers (Hakansson and Snehota, 1995; Gogin, 1999; Gummeson, 1999; Seybold, 2001).

In current competitive environment, companies learn from their mistakes and reposition themselves and their decision processes. In this sense, the significance customers place on the rendered services as an integral part of the whole packet of product increases. Also, the customer service factor is emphasised and providers need to reconsider their product mix to account for that.

The next section reviews literature on the importance of MMIS in marketing management and identifies areas, which can hinder effective utilisation.

Literature Review

An Information System is a standardized system to collect, maintain and process data and produce results aiming at meeting the company needs in the sector of information (Hicks, 1996). The term Management Information System is according to Hicks (1996) synonymous to the term Information System, a fact that is accepted under the presupposition that the Management Information System mainly supports the operations of programming, controlling and decision making and gives information to all successive grades of company executives, mostly by publishing regular, and brief reports as well as variation reports (Laundon and Laundon 2001; Haramis 2001).

Capon and Glazer (1987) regard that the development of technology knowledge includes the know-how of procedures and products as well. Mohr (1996) divided technolo-

gy in product technology, namely ideas incorporated in the product, and procedure technology, namely ideas participating in the manufacture of a product. Capon and Glazer (1987) and Quinn et al. (1997), observe that high technology is a term synonymous to know-how which includes the scientific knowledge that is incorporated in the usefulness of a product as well as in the knowledge and experience of the product's manufacture and sale. Moriarty and Kosnik (1989), suggest that technology can also be incorporated in men, materials, societal procedures etc. They place technology within a framework including and combining from one part its existence into the product and from the other part, its management, namely the knowledge of how Marketing should be applied on the product and how the company will be managed.

In the event where the "involvement" of human factor is present with the consumer's capacities, then the following conditions are valid. There is an extremely high grade of uncertainty (risk) which is analyzed in the following two questions: a) which needs will High Technology meet? and b) will consumers adopt the new technology? (Moore, 1991). Potential consumers demand to acquire high quality of information, a fact that is confirmed by Kettingham and White (1984) who remark that consumers in order to adapt (buy) an Information System (IS namely a High-Tech product), they are collecting and processing information so as to reduce the feeling of doubt.

Past experience has proven that the use of system causes reasons so as the system to change and improve (Fotiadis and Haramis 2002). And consumers involved in High Technology product purchases seem to use the model of extended decision-making (Finn 1984; Siomkos 2002).

The "moments of truth" describe the moment when a person employed in the enterprise which renders services, is contacting a client (Gummesson 1990). Bitner et al. (2000) noted that in the past, service encounters were described as "High touch and low tech" a description that has greatly changed today. Currently, employees use extensively CRM systems as well as other information systems so as to optimize their performance and effectively meet the service en-

counters (McCalla et al., 2003). In fact, through the interactive services marketing literature, emphasis is placed on the importance of a holistic view of technology used in the service encounter (Parasuraman and Grewal, 2000). McGalla et al. (2003) also provide a conceptual model that reflects the pyramid extension (Parasuraman, 1996) of Kotler's (1994) triangle model of service marketing.

Adding the important contribution of rendered services could enhance this model. In particular, the maintenance offered by the provider of the Information System that allows CRM IS Users to correspond to the service encounters and provide quality services to their company clients. Without the assistance of the provider company, the complexity of modern Management Information Systems is in essence impossible and ineffective (Hakansson and Snehota, 1995).

Methodology

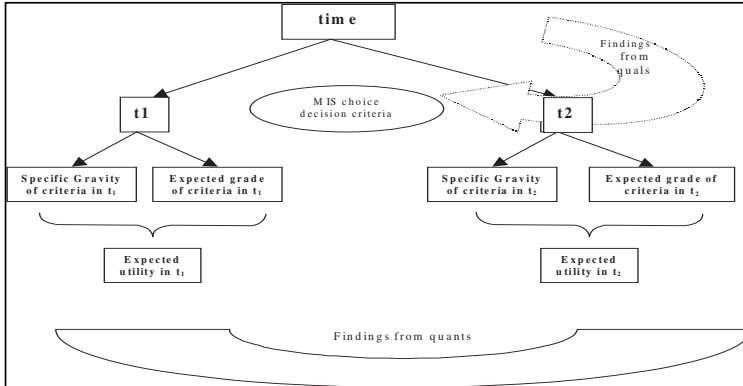
The research structure incorporates two phases and this paper presents the second one. In phase one, the aim of this study was to investigate MIS director's perceptions and attitudes regarding the provision of MMIS products and services in Greece with the objective to identify factors and criteria that influence choice decisions within this context. For triangulation purposes, a qualitative and a quantitative research formats were employed utilising interviews with a total of 128 participants and questionnaires (a total of 83 in period t2). For the purposes of the quantitative research, the period t1 (total duration of three months) investigated perceptions (through a follow-up questionnaire) that were categorised as directors' expectations of MMIS product. The screening factor for choosing the specific companies was their intention to buy MMIS product at that period of time (in between t1 and t2). This information was accessed through providers' databases.

Findings from the qualitative research suggested three main categories of criteria namely, supplier's name and reputation, financial terms of acquisition and customer service were identified as elements that influence choice decisions.

A model interrelating these constructs was proposed. In both phases one and two (after a two-year period of time) a quantitative approach utilizing questionnaires was initiated. MIS directors from eighty-three companies (excluding company cases with a different person as MIS director in t2) were interviewed by completing questionnaire. The procedure followed the rationale shown in Figure 1:

The same variables (criteria) were used in two time periods (t1 and t2) to account for the modulation of criteria changes, as well as the change of their specific gravity after the passing of t2-t1 time period (approximately two years). The expected utility (expected grade of criterion X specific gravity of criterion) in t1 and t2 periods was also estimated, so as to be able to make the relevant comparisons. Finally, the actual utility was estimated in the t2- t1 period, so as to infer conclusions from the possible variations from the expected one.

Figure 1. Synopsis of research process.



The objective of quantitative research was determined as the identification of possible associations among the variables (criteria): «Supplier's Name and Reputation», «Financial terms of acquisition» and «Customer Service» relative to their specific gravity and expected grade at the two different periods of time of analysis (period of time: t1= «before» and t2= «after» the acquisition of the new information system). Correlation analysis and means analysis of the vari-

ables investigated at the two different periods of time (two tailed paired samples test) were the basis for checking linearity among variables and also statistically significant variations that could exist if the same variables were investigated at different periods of time. The following table presents the variables investigated through the questionnaire.

Table 1: The study variables.

Table presenting variables to investigate in order to describe the factors associated with M.I.S choice criteria ($n_1=n_2=83$)	
Code of question/ variable at time period: t1 and t2	Question/Variable
V1, V10: (a)	“Specific gravity of selected criteria, Supplier’s Name and Reputation ”
V2, V11: (b)	“Expected grade of selected criteria, Supplier’s Name and Reputation ”
V3 (=V1*V2), V12 (=V10*V11): (c)	“Expected utility of selected criteria, Supplier’s Name and Reputation ”
V4, V13: (a)	“ Specific gravity of selected criteria, Financial terms of acquisition”
V5, V14: (b)	“ Expected grade of selected criteria, Financial terms of acquisition”
V6 (=V4*V5), V15 (=V13*V14): (c)	“ Expected utility of selected criteria, Financial terms of acquisition”
V7, V16: (a)	“ Specific gravity of selected criteria, Customer Service”
V8, V17: (b)	“ Expected grade of selected criteria, Customer Service ”
V9 (=V7*V8), V18 (=V16*V17): (c)	“ Expected utility of selected criteria, Customer Service ”
Footnote:	For , (a)= Variables being answered according to ten-point Likert scale (1=especially low to 10=especially high) (b)= Variables being answered according to five-point Likert scale (1=especially low to 5=especially high expected grade of selected criteria), and (c)= Variables being defined ad hoc and represent the product of paired variables of (a) and (b) categories, with minimum price (min=) 1 and maximum price of expected utility (max=) 50 units.

Main Findings - Discussion

According to the research procedure, in phase two, a quantitative data analysis was initiated to verify the qualitative findings. After the creation of the relevant file with the data to SPSS 10.0, analysis of 83 observations and 18 variables took place so as to be able to describe the type of distribution and to identify associations among variables. At a subsequent phase, the analysis of associations among the 18 variables was conducted in order to confirm qualitative findings and identify possible functional relationships between the investigating variables.

The dimensions influencing MMIS provider selection identified in quantitative research were “Supplier’s Name and Reputation”, “Financial Terms of Acquisition” and “Customer Service”. The first criterion, namely, Supplier’s Name and Reputation is affected by the third criterion namely, Customer Service. In relation to the “customer service” criterion, it is a separate factor-criterion for all respondents affecting at the same time as a innate variable the first criterion (direct response, reliable, timely, direct handling and solving of potential problems) and the second criterion (maintenance cost or MIS upgrade) as well. This is confirmed in both periods (t_1 and t_2) and it is more significant in period 2.

The second criterion namely, Financial Terms of Acquisition is affected by the Customer Service criterion through the maintenance factor. This is valid in both periods and it is more significant in period 2. Again Customer Service is an endogenous variable to the second criterion at an aggregate level and in both periods, Customer Support receives the highest rating among other criteria regarding the relevant importance placed by the respondents. The fact that it is an endogenous variable offers an explanation to that. Moreover, in period 2, it seems that all properties/dimensions of the criterion are integrated in their natural position and consequently the criterion enjoys higher rating.

The most significant dimensions, classified by most respondents as “absolutely imperative” include “reputation” of the company and “technical ability” of personnel. Almost all respondents considered the “support of information system” as the most important criterion. Only a small number of respondents (and only in t_1) recognised the purchase cost as the “most important” criterion. Respondents considering customer support as the most important factor, tend to give the lowest importance to the criterion of reputation. An obvious contrast can be seen with the “price” variable that was classified as “absolutely imperative” by few of the respondents. Price (cost) is not the most important criterion in the selection of MMIS providers.

In a more dynamic analysis, and comparing the anticipated performance of criteria in t_1 with the actual perform-

ance during t_2-t_1 , great variations were found between the gravity of first criterion in period 1 with period 2, the utility of second criterion in period 1 with period 2, the degree and utility of third criterion in period 1 with period 2. In relation to the difference between anticipated performance and the potential influence on the formation- selection of criteria in t_2 , the following are noted: (1) Most of the variation in respondents' ratings resulted from the insufficient satisfaction of criteria established in t_1 and remained steady until t_2-t_1 . Although respondents proposed the same criteria, yet they presented the lowest anticipated degree of satisfaction in t_2 . The fact that the same criteria were selected for t_2 confirms that. In addition, the fact that the same criteria have been accepted even for t_2 although there were deviations in the previous period further strengthens the results presented. (2) Again in t_2 the "customer support" criterions along with the "name and reputation" receive the highest total of negative deviations. The interesting point here is that even though the criteria remained, there is a shift on the relative importance that each criterion receives. The fact that respondents recognised the actual performance in t_2-t_1 and its rather small deviation from the anticipated performance depicts only part of their dissatisfaction. The highest shift is observed in the direction from the criterion of "cost" towards the "customer support". (3) It seems that MMIS providers did not satisfy customer expectations and the main area of dissatisfaction is Customer Service. Given the relationship of criteria one and three (customer service is one of the properties of Supplier's Name and Reputation) this reinforces negatively the dissatisfaction regarding the implementation of the third criterion. The score transformation among criteria for the "relevant importance" variable in t_2 benefits the criterion "customer support" at the expense mainly of supplier's name and reputation and at a less degree of the criterion "financial terms of acquisition".

Based on the results, alternative explanations on the type of industrial buyers could also be offered. (1) The criterion "Supplier's Name and Reputation" is negatively associated with the criterion "Customer Service" in t_1 (before the purchase of MIS product). Directors who value high the "Cus-

customer Service” criterion (high score in expected utility, see also Figure 2), at the same time evaluate low the “Supplier’s Name and Reputation” criterion. In this sense, if the “Supplier’s Name and Reputation” criterion is associated with the loyalty dimension then directors could be characterised as non-loyal buyers. This type of buyer is the “relationship seeker” who prioritises close relationships with suppliers (Piercy 2002). (2) The expected utility of the criterion “Supplier’s Name and Reputation” in t1 and the actual (perceived) utility of the criterion in t2 are positively correlated. This shows a stable positive evaluation trend before and after the MIS product purchase. This type of buyer is the customer who would give long-term loyalty but at the same time might not want a close relationship with the provider. In addition, it must be noted that there is significant difference in the mean ratings for the criterion at the two periods of time. (3) The expected utility in t1 for the criterion “Financial Terms of Acquisition” is negatively correlated with the expected utility of the criterion “Customer Service” in t1. This same correlation is valid for the actual utility of the criteria in t2. MIS directors who value high the “Customer Service” criterion (high score in expected utility, see also Figure 2), at the same time evaluate lower the “Financial Terms of Acquisition” criterion. Again, this type of buyer values strong relationships with providers (through Customer Service) and put less emphasis on the cost criterion. According to Piercy (2002) the latter type of customers are called the Arm’s-length, transaction buyers who avoid close relationships and move business based on price and technical specification.

At an aggregate level and in both periods, Customer Support receives the highest rating among other criteria regarding the variable “expected (actual) utility”. Also, the expected utility of the criterion “Customer Service” in t1 and the actual (perceived) utility of the criterion in t2 are positively correlated. Again, this shows a stable positive evaluation trend before and after the MIS product purchase. Again, it should be stressed that there is significant difference in the mean ratings for the criterion at the two periods of time. Finally, the score transformation among criteria for the vari-

able specific gravity in t2 benefits the criterion “customer support” at the expense mainly of supplier’s name and reputation, and at a less degree of the criterion “financial terms of acquisition” (see table 2, pairs: 1, 4, 7).

Table 2. Paired Samples Statistics; Mean Analysis. [See Table 1 explanations about the Question Variables of the quantitative study].

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAR00001	3,19	83	1,50	,16
	VAR00010	2,78	83	1,27	,14
Pair 2	VAR00002	3,72	82	1,36	,15
	VAR00011	3,87	82	1,30	,14
Pair 3	VAR3	12,67	83	7,55	,83
	VAR12	11,71	83	7,62	,84
Pair 4	VAR00004	2,82	83	1,24	,14
	VAR00013	3,00	83	1,35	,15
Pair 5	VAR00005	3,65	82	1,26	,14
	VAR00014	3,87	82	1,22	,14
Pair 6	VAR6	10,77	83	5,68	,62
	VAR15	12,42	83	7,23	,79
Pair 7	VAR00007	3,94	83	1,62	,18
	VAR00016	4,20	83	1,91	,21
Pair 8	VAR00008	4,10	82	,95	,10
	VAR00017	4,40	82	,81	,9E-02
Pair 9	VAR9	16,45	83	8,54	,94
	VAR18	19,28	83	10,70	1,17

Table 3. Paired Samples Test; t - statistic.

Paired Samples Test									
		Paired Differences Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Sig. (2-tailed)
1	VAR00001 - VAR00010	,41	1,10	,12	,17	,65	3,378	82	,001
2	VAR00002 - VAR00011	-,15	1,24	,14	-,42	,13	-1,070	81	,288
3	VAR3 - VAR12	,96	7,94	,87	-,77	2,70	1,106	82	,272
4	VAR00004 - VAR00013	-,18	1,34	,15	-,47	,11	-1,224	82	,224
5	VAR00005 - VAR00014	-,22	1,33	,15	-,51	7,35E-02	-1,491	81	,140
6	VAR6 - VAR15	-1,65	7,32	,80	-3,25	-5,13E-02	-2,053	82	,043
7	VAR00007 - VAR00016	-,27	1,61	,18	-,62	8,62E-02	-1,501	82	,137
8	VAR00008 - VAR00017	-,30	,91	,10	-,51	-,10	-3,027	81	,003
9	VAR9 - VAR18	-2,83	9,04	,99	-4,81	-,86	-2,853	82	,005

Conclusions – Managerial Implications

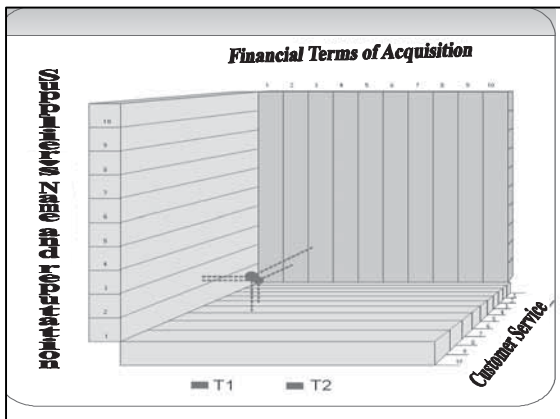
In the next paragraphs, we discuss the analysis findings in an attempt to provide recommendations that might be helpful to practitioners as well. The paper attempts to incorporate

conclusions and to establish a framework defined by modern marketing views. MMIS, if seen as a product from the marketing point of view, surrounds the meaning of service.

Service, as examined in this framework, represents from one part the maintenance of the system, that is the “modifications aiming at correcting mistakes, at adding missing points, and at changing points so as to adjust to the needs of its environment, and its each enhancement for any reason whatsoever” (Haramis 2001, 21), and from the other part, the training of users and its installation. According to the research results, during the transition from t_1 to t_2 , the service factor is reinforced.

There is a significant change in the rendered meaning of “customer” companies as far as the satisfaction of their needs is concerned through integrated support, a fact that in our case appears as strengthening element of the criterion “customer service”. This could be depicted in diagrams based on which customer companies would try to select MMIS providers, suggesting that there is a long-lasting change in the determination of provider lines based on their characteristics (investigated criteria). It can also be presented in a 3-D figure that includes all three criteria selected and demonstrating the specific gravity (at an aggregate level) that MMIS directors assigned to criteria, in t_1 and t_2 .

Figure 2. 3D presentation of the specific gravity of the three criteria that MMIS directors assigned for t_1 and t_2 time periods.



Consequently, in t_2 , customer companies would rather buy from a provider whose characteristics –as they can be rendered in a perceptual map of the customer company- are located as nearer as possible to the representation and satisfaction of their criteria.

In addition, it has been suggested that MMIS choice decisions are mainly addressing to organizational buyers and that the buyers are involved in an extensive decision making process. An organizational buyer spends considerable time in conversations- negotiations and market research before the final decision (Sawhney 2001). Various actors within the company who are looking thoroughly every aspect of the potential purchase so as to minimize risk examine this decision (Mullins and Sutherland 1998). In this sense, the degree of the salesman's proficiency and credibility plays a critical role in the decision making process (this decision will also be based on detailed information, technical specifications and former negative or positive experience of the consumer).

In addition, the buyers group will try to achieve a middle-to long-term satisfaction of its strategic goal (Gwinner et al. 1998). Apart from the satisfaction of the factors of cost and quality, service is an integral part of this (Pride-Ferrell, 2002). That is also supported by the findings of this research. "Service (maintenance, etc) affects directly or indirectly the customers of industrial buyers, their cost, their sales and their profits. This is used in an effort to acquire a strategic advantage". Results showed that the reliability of the timely provision of service is incorporated as the most important criterion of their selection.

Results indicate the prevailing importance of certain dimensions in selection (e.g. technical ability, reputation, competency) and evaluation (responsiveness, technical ability, trustworthiness), whereas it also found that price alone is not perceived to be as important in ship manager selection.

The empirical study undertaken in the context of identifying and rating the importance of the dimensions for MMIS selection and evaluation provided some important insights into the perceptions of directors with respect to these dimensions. These insights, together with the proc-

ess for selection and evaluation described in the previous section provide sufficient evidence for the formulation of marketing strategy and ample opportunity for conducting further research in the area.

The major marketing implication emanating from the study is the prioritization of the dimensions that are actually deemed to be most important in a MMIS provider selection context. The competency of human resources (through the customer support service) in delivering high quality service is of the utmost importance, both in selection and evaluation. This also contributes to the building-up of a reputation and the development of customer relationships. Although the dimensions may vary from customer to customer, it is generally the case that the competency and technical ability of personnel, together with the operational systems which are in place, are probably the most highly valued in the selection and evaluation agenda of most customers.

A readily distinguishable outcome of the responses is that the dimension of price does not seem to be absolutely imperative to the selection of a MIS provider. The results indicate that good service in terms of technical and managerial capabilities is more important than low price alone in choosing MIS providers. To a great extent, this finding supports those of previous studies in various professional service industries. For instance, Banville and Dornoff (1973) found that good service was rated significantly higher than quality of product, low price, location of supplier and the availability of credit in the purchase of major building products. Dempsey (1978) supported this in a study of purchasing managers in two industries: electronic manufacturing and electric utilities.

It has been recognized that, in the context of technical professional services, price may not be the most important variable in the customer's assessment of value. Wilson (1972) noted that the greater the innovation, the further into the value sensitive area the decision is moved, and the less is the importance of price. Value is defined in the pricing literature as the trade-off between customers' perceptions of benefits received and sacrifices incurred (Leszinski and Marn, 1997). Monroe (1990) and Gale (1994) cited quality

as the customers' primary benefit, whereas price is a crucial component of the sacrifice incurred. To the extent that other benefits or components of 'value' as perceived by the customer are increased, then price becomes a less crucial aspect in the MIS selection decision.

Other authors have found that past experience was the single most important criterion in the selection process (Wilson, 1972; Cunningham and White, 1973). For instance, Cunningham and White (1973) found that the strongest determinant of a buyer's patronage decision is his past experience. This may also be true in the case of MMIS selection, where this analysis has revealed directors feel that past experience or recommendations from personal sources (which may be viewed as a proxy for past experience) are important criteria in the selection of providers.

It can also be deduced from the results that considerable weight is placed on the provider's establishment and status, i.e. the reputation that the provider has accumulated over the years. Lehmann and O'Shaughnessy (1974) purport that reputation is very important in the selection and evaluation of vendors, due to the desire of decision-makers to reduce risks to their companies and for themselves by selecting suppliers with a good reputation and high credibility. In MMIS provider selection, the past experience of the customer is highly important and can become a decisive factor in the choice process.

Experience is coupled with the technical ability of provider's personnel, which is deemed to be of great importance. This is also reflected by the fact that almost all respondents deem technical ability to be absolutely imperative in the MMIS selection process. The implication of this is that high service quality, partly evidenced by technical competency, is a basic necessity for ensuring the long-term competitiveness of provider firms. Demonstrable technical and operational competency will also lead to a more favourable disposition towards the provider and an increase in loyalty. Prior experience is the best evidence yet for re-purchase decisions and increased loyalty. The impact of perceived service quality on price indifference loyalty is also quite high. Once a MMIS provider company has demonstrated its ability to satisfy

customer needs and deliver under the customer's remit, the customer will be less sensitive to price increases.

In striving to achieve high service quality, it is also important to minimize or eliminate the potential occurrence of isolated incidents in which the service quality falls below a customer's expected standards. Although an aspect of great difficulty bearing in mind the complexity of MMIS operation, at least the presence of contingency plans and service recovery strategies will go a long way towards demonstrating responsiveness and problem solving ability; key dimensions taken into account in the evaluation process. The recruitment and training of qualified and competent personnel, together with the reinforcement of service quality perceptions and the development of socio-psychological bonds of trust and commitment, will certainly culminate in the achievement of a high score on the performance evaluation scale.

Results of this study indicate that selection and evaluation of a particular MMIS provider company may be largely based on an assessment of value. This value is a measure of several dimensions of varying importance. This research reveals that value in a MMIS selection context is resolved on two levels. The first level is a measure of technical quality (technical expertise, problem solving ability, experience), functional quality (reliability, responsiveness, integrity), relational quality (trustworthiness, commitment, communication), operational quality (technology, systems) and image (reputation, recommendation, past experience). The second level consists of financial variables (cost effectiveness, revenue, profitability) and strategic variables (location, managerial ability). The results are comparable to those of previous research studies (Holmlund and Kock, 1995; Ravald and Gronroos, 1996).

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