Study of the Impact of Information System on Marketing and Sales Function in MSME sector of Ahmednagar MIDC Area

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Abstract

Due to the advent of Information System (IS), it is quite possible to control, update, edit various activities which results in a high degree of accuracy. In managing a manufacturing organization and implementing an internal control system the role of enterprise wide information system is crucial. An important task in the field of marketing and sales function is to analyze the customer's needs and complete the sales activity. The study is made to find out the relevance of Information System in performing marketing and sales activity and decision making concerns in micro, small and medium enterprise (MSME) sector of Ahmednagar MIDC. Such a study is necessary in order to evaluate or quantify the impact and use of information system. This study will also be useful to suggest technical or other suggestions that may be when incorporated will expected to enhance the overall performance of the said function.

Keywords: Information System, Marketing and Sales Function, Factor Analysis, MSME, Manufacturing Industry

1.Introduction

Due to the growth of enterprise wide information systems with extraordinarily rich data means managers no longer operate in a fog of confusion, but instead have online, nearly instant, access to the really important information they need for accurate and timely decision making. A marketing and sales department performs market research, develops promotional plans and manages personal selling strategies. According to Philip Kotler one of the shortest definitions of marketing is 'meeting needs profitably.'(Kotlar, 2000)

Marketing is a business function that interprets the customers' needs for the rest of the organisation. This deals with trying to guess what type of products the customers wants, estimate how much they will buy, when they will buy, the benefits the customer is seeking in the product, and estimating the best price to sell a product with adequate profit. The marketing manager has to perform the company's internal analysis; find out the company's cost structure and cost position relative to its competitors. The manager has to keep the records of entire marketing and sales activity like customers' information, enquiries, quotations, sales orders, delivery orders, invoices, payment information, product information, etc. Marketing manager has to perform pre-sales cycle to complete the sales activity. While accepting the order there is a need to ensure order terms and conditions, verify the PO with quotation, verify customers' eligibility to order (in case of credit or product restrictions), verify the company's willingness and readiness to accept the order, and check product availability. In order to fulfil the order as soon as possible, the manager has to coordinate with production and inventory department.It is the responsibility of the marketing and sales manager to complete the sales activity by delivering the products to the customer and receiving the payment. Hence, the objective of study is to find out the impact and use of information system in performing all such tasks, to know the loopholes and give possible suggestions to improve it.

2.Objectives:

1.To study the impact and use of information system in performing marketing and sales function.
2.To find out the loop holes in the present information system used by the organization.
3.To find out the important factors for the criterion supported by the IS to complete the marketing and sales activity.

3.Research Methodology:

The present study is based on descriptive approach, in which maximum qualitative information, attribute type data, experience based opinions are collected using the survey method (McCombes, 2021). The researcher has collected data from 36 manufacturing units of MSME sectorin the region of Ahmednagar MIDC using a structured questionnaire. A data was collected from the managers working in Marketing and Sales department of these companies which ask for the information related to the use of Information System in performing Marketing and Sales function, by using multiple choice type questions. Inferences were drawn based on the collected data using various statistical techniques like Frequency calculations, proportionate tests, graphs, tabulation etc.

Further researcher had done factor analysis to identify a new, smaller set of salient variables from a larger set. Appropriateness of factors is examined using KMO measure (Field, 2013). Bartlett's test of Sphericity is also done to examine the hypothesis that the variables are uncorrelated in the population.

4.Results and Discussion:

4.1 Use of Information System in analysing customer's needs

Marketing is a core business discipline. The basic task in the marketing research is to anticipate the customer's needs. Following Table – 1 shows the responses collected from the managers to know about the support of Information System related to analysing customer's needs.

Table – 1: User responses for support of Information Systemin analysing customer's needs

Criterions		Frequency	Percent
	Total	36	100.0
Trying to guess what type of products customers wants?	No	19	52.8
	Yes	17	47.2
Estimate how much they will buy?	No	33	91.7
	Yes	3	8.3
Predict when they will want to buy?	No	34	94.4
	Yes	2	5.6
Benefits that customer is seeking: tangible and intangible?	No	36	100.0
	Yes	0	0.0
Frequency of purchase, impact of seasonal factors?	No	32	88.9
	Yes	4	11.1
Determine the best price to sell product and also make profit	No	0	0.0
	Yes	36	100.0
Source: Author's computation			

From the findings of Table – 1, it can be concluded that the information system available in the manufacturing organisations under study does not have sufficient predictive capabilities and hence it is not useful in analysing many of the customer's needs. But the existing information system's mathematical and the decision making module is excellent and all the organisations were using it to determine the best price to sell the product and earn profit.

4.2 Use of Information System in doing organisation's internal analysis

By performing organisation's internal analysis manager can exploit the business opportunities. One of the most telling signs of whether a company's business position is strong or precarious is whether its prices and costs are competitive with industry rivals (Arthur et al., 2006).Following Table –2 shows the user responses for the support of information system in doing organisation's internal analysis.

Table – 2: User responses for support of Information System in doing organisation's internal analysis

Criterions		Frequency	Percent
	Total	36	100.0
Analysing company's cost structure and cost position relative to competitors	No	5	13.9
	Yes	31	86.1
Identify company's core competencies	No	34	94.4
	Yes	2	5.6
Identify firms competitively distinct company resources	No	26	72.2
	Yes	10	27.8
Source: Author's computation			

Table – 2 shows that 86 percent managers are using Information System in analysing company's cost structure and cost position relative to its competitors. 27.8 percent managers reported that information system helps in identifying the firm's competitively distinct company resources. Understanding the nature of competitively important resources allows managers to identify resources or capabilities that should be further developed to play an important role in the company's future strategies.5.6 percent managers reported that information system helps in identifying a company's core competencies.

4.3 Use of IS for data storage and retrieval related to Marketing and Sales function

Marketing & sales department needs to store information about customers, enquiries, quotations, sales orders, delivery orders, invoices, logistic information, tax information, payments, credi, product, stock information etc.

Table – 3: User responses for support of Information System in storage and retrieval of data related to Marketing and Sales Function

Criterions	Frequency	Percent (%)
Total	36	100.0
Customer's Information	36	100.0
Enquiry	33	91.7
Quotations	33	91.7
Sales Orders	36	100.0
Delivery Orders	34	94.4
Invoice/Bills	35	97.2
Logistic Information	32	88.9
Tax Information	33	91.7
Payment Information	35	97.2
Credit Information	35	97.2
Product Information	35	97.2
Stock Information	36	100.0
Source: Author's computation		

Information System facilitates the speedy, sophisticated and reliable storage and retrieval of the data. The reporting capabilities of information system provide improved business insights to drive sales opportunities. Findings from Table – 3 shows that most of the organisations are using information system for almost all kinds of data storage and retrieval activities related to marketing and sales function.

4.4 Use of Information System for performing pre-sales activities

Presales are a process or a set of activities normally carried out before a customer is acquired("Presales," 2013). The researcher has identified various pre-sales activities and responses are collected by the managers related to performing these activities with the support of information system present in the organisation.

Table – 4: User responses for support of Information System inperforming pre-sales activities

Criterions		Frequency	Percent
	Total	36	100.0
Creating/tracking customer's contact	No	12	33.3
	Yes	24	66.7
Stores documents prepared to encourage customer transaction	No	27	75.0
	Yes	9	25.0
Identify possible sale and determine sales probability	No	28	77.8
	Yes	8	22.2
Maintain the pre-sales documents	No	13	36.1
	Yes	23	63.9
Source: Author's computation			

Table – 4 shows that 66.7 percent organisations are taking support of Information System application for creating contacts with customers or tracking the customers. Information System can be used to store and retrieve customer's contact or communication information and can also keep records of past communication which help during further communication with the customer.

25 percent managers reported that they use information system to store documents prepared to encourage or facilitate successful customer transactions. Pre-sales person or manager can use this information while contacting the lead. Lead is an individual who has provided contact information and, in doing so, pointed toward a potential sale opportunity (Matt, 2015).

The prospect is a qualified and interested individual who, through two-way interaction, has demonstrated they are preparing to make a purchase decision(Matt, 2015).   22.2 percentorganisations are using the information system to identify possible sale and determine sales probability.

Once the pre-sales activity was done, the present information system also helps to maintain pre-sales documents like product availability, Price, Selling terms and conditions, Contracts etc.

5.Performing Factor Analysis:

5.1 Factor analysis for criterion supported by IS to complete the sales activity

Factor analysis helps to find out the manageable and important groups of criterion on which the marketing and sales manager should focus while dealing with the customer to complete the sales activity efficiently and effectively. Following Table – 5 shows the result of factor analysis.

Table – 5: Factor analysis for criterion supported by Information System to complete the sales activity

Components Extracted		
F1 *Product Knowledge*	**F2** *Company's and Customer's Information*	**F3** *Contact Information and Company Policy*
25.65 %	25.09 %	22.49 %
Past Sales Activity Product Information	Past Communication General Company Information Current Back Orders	Contact Information Credit Limits and Usages
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .581 **Bartlett's Test of Sphericity (χ^2 (36) = 75.238, *p* = < .001, *df* =21)**		
Total VarianceCumulative % = 73.240% with Initial Eigen values > 1 for 3 factors ***Note:*** *Factor Loadings < .5 are suppressed.*		
Source: Author's computation		

From Table – 5 it is found that KMO test result is mediocre, which shows its adequacy for factor analysis of given data. The Bartlett's test of Sphericity rejects the null hypothesis and accepts the alternate hypothesis, that variables are correlated. Further, it can be concluded that all the three factors have nearly equal importance. It is also found that most of the factor loadings are above 0.5 with high communalities.

5.2 Factor analysis for facilities provided by the order entry module of present IS

The researcher has identified five major facilities which are provided by the order entry module of the present information system in the organisation. Following Table – 8 shows the result of factor analysis.

Table – 6: Factor analysis for facilities provided by the order entry module of present Information System

F1 *Customer's and Company's Analysis*	**F2** *Order Analysis*
39.47 %	29.04 %
Ensure Order Terms Purchase Order match with Quotation Check Product Availability	Verify Customer's Eligibility to Order Company willing/able to Accept Order
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .580 **Bartlett's Test of Sphericity (χ^2 (36) = 38.491, *p* = < .001, *df* =10)**	
Total VarianceCumulative % = 68.524% with Initial Eigen values > 1 for 2 factors ***Note:*** *Factor Loadings < .5 are suppressed.*	
Source: Author's computation	

After using Varimax rotation method, as shown in Table-6, the variances of the two factors were 39.47 percent and 29.04 percent, which shows that 1st factor is more important as compare to 2nd factor. It is also found that most of the factor loadings of the 1st factor are> 0.8 and 2nd factor are> 0.6 with high communalities.

5.3 Factor analysis for use of IS to provide product information and its shipment

User responses are collected for the use of information system support to provide product information and its shipment.Following Table-7 shows the major groups of facilities supported by the information system which are very useful for the sales manager to take decision regarding order fulfilment.

Table – 7: Factor analysis for use of Information System to provide product information and its shipment

Components Extracted		
F1 *Stock in Hand*	**F2** *Expected Order Receipt*	**F3** *Planned Production*
32.12 %	21.88 %	21.05 %
Stock in Hand Make-to-order Production	Expected Order Receipt Shipped directly from External Supplier	Planned Production Shipped directly from another Plant/Warehouse
Kaiser -Meyer -Olkin Measure of Sampling Adequacy = .557 **Bartlett's Test of Sphericity (c^2 (36) = 41.651, p = < .001, df =15)**		
Total VarianceCumulative % = 75.064% with Initial Eigen values > 1 for 3 factors *Note:* *Factor Loadings < .5 are suppressed.*		
Source: Author's computation		

As shown in Table – 7, the six criterions under study are converted into three groups, with 2 variables in each group. After rotation the variances of the three factors are 32.12 percent, 21.88 percent, and 21.05 percent, which shows that 1st factor has higher importance where as 2nd and 3rd factor has nearly equal importance. It is also found that the first factor has factor loadings > 0.8 and the other two factors have factor loadings > 0.5.

6.Conclusion:

An information system not only helps in performing the various functions related to the marketing and sales, but also helps in the decision making process. Information system help in doing marketing research and analysis. The data storage and analysis capabilities of the information system are very efficient and help to generate various reports which also helps in decision making. An information and communication system is very useful to perform pre-sales activities. The present information system not only helps in taking the order but also in fulfilling it by checking the various constraints. Information system extends its support for generating and maintaining the delivery notes, invoices, payment receipts, credit notes, bank transactions, tax calculations, advances, penalties, logistics information and charges, etc. Thus, it can be concluded that Information System is a backbone for the successful functioning of most modern MSMEs and also helps in improving overall working.

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