

ASSESSING THE IMPACT OF ORGANIZATIONAL EFFECTIVENESS AND EFFICIENCY RESULTING FROM MIS USAGE IN TERMS OF CUSTOMER SATISFACTION, OPERATIONAL MANAGEMENT, AND FINANCIAL INVESTMENT: THE CASE OF MMI COMPANY

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ABSTRACT

Management Information Systems (MIS) is the usage of information systems at the operational, tactical, and strategic levels so that businesses are aided in the achievement of goals. (Oprea, 2007) While the use of MIS is already quite common, its many benefits have lately piqued the interest of researchers. The researcher conducted the study to identify the effectiveness and efficiency resulting from MIS use. Adonie, et al., (2007) suggested that organizational effectiveness and efficiency can be assessed by looking at customer service, financial management, and operations management. For the case of MMI Company, in terms of customer service, employees become more engaged and MIS significantly allowed them to become more productive and efficient at work, overall the employees are satisfied with the current MIS being used by the company. In terms of operations management, the MIS is able to deliver accurate data and information is easily accessed by its users. The employees agree that it reduced the amount of workload they have, it also made their work easier, it saved a lot of their time because everything they need is within the system already. And with regards to financial investment, the MIS as helped make better decisions with regards to their financial since better analysis, and balance sheets are created with the use of the system, it also paved way to create a better understanding with regards to the company's financial data, the benefits of the MIS outweigh the cost associated with it. Not only did it benefit the employees a lot, but the impact it gave to the financials of the company is substantial.

Keywords: Organizational Effectiveness, Organizational Efficiency, Customer Satisfaction, Operational Management, Financial Investment, Management Information Systems

INTRODUCTION

Background of the Study

Management information system contributes to the effectiveness and efficiency of organizations by providing relevant information for sound decision-making and by providing assistance in making necessary changes in the organizational plans and procedures. This is supported by the study of Adonie, Russo & Dean (2007) that relevant information through the use of MIS can provide recommendation to enhance products and allows the organizations to gain competitive advantage in this fast changing environment. The effects of MIS can be seen from the perspective of customer service, financial and operations management of firms. De Queiroz & Olveria (2014) also support this, stating that companies such as clothing retail businesses are searching for such technology that gives them more flexibility and smoothen

operations, as well as give them competitive advantage over their current competitors and soon-to-be competitors.

Rationale of the Study

In the current century, technology has shaped the way business is conducted across almost every industry, we know now that MIS holds a vital place in many organizations, helping improve or shorten many business processes as well as streamlining tasks which would otherwise be very difficult. This study will focus on the effectiveness and efficiency derived from MIS and tackle whether it impacts customer satisfaction, operational management, and financial investment. And if so, to what extent and the like. The findings of this study will prove to be extremely beneficial because customer satisfaction, operational management, and financial investment are factors which all service oriented companies are keenly interested in.

Statement of the Problem

What is the contribution of MIS to organizational efficiency and effectively in the companies in terms of customer satisfaction, operational management, and financial investment?

Objectives of the Study

MIS is a system that collects and processes data and provides it to managers at all levels for decision-making, planning and implementation (Michalek, 2006). It has been perceived to have many benefits both tangible and intangible. The purpose of this research is to discover the extent of the contribution held by MMI's MIS to organizational efficiency and effectiveness in terms of customer satisfaction, operational management, and financial investment.

Significance of the Study

The study offered significant information with regards to how organizational effectiveness and efficiency impacted customer satisfaction, operational management, and financial investments. The results of the study revealed important information for the benefit of following entities:

- Home and Garden Industry

Organizational effectiveness and efficiency are something all companies want to maximize and with the current rise of MIS in business models, it is important to see the impact that MIS holds in many regards namely customer satisfaction, operational management, and financial investments. Other organizations could easily apply the information gathered from this research to improve their own performances and strengthen their market positions.

- Companies involved in the study

Marswin Marketing Inc., being the sole respondent of the paper, stands to gain the most since the data gathered and recommendations given will be tailored to MMI's needs. Whether MIS actually improves effectiveness and efficiency and to what extent it impacts customer satisfaction, operational management, and financial investment will all prove to be vital information.

- Academey

There have been several empirical studies arguing the influence of MIS, there is also scant literature in the Philippine setting regarding these topics. This study added to the existing literature will help in improve the quality of dissertations with similar topics, especially in the same industry.

- Future Researchers

This research could give additional information to future researchers for their own studies as this can be used as a comparison or base article for the further continuation of this study. Others could identify possible research gaps in this study, so they could make improvements on their own researches.

Scope and Limitation

The following were included in the study:

- Marswin Marketing Inc. is the sole respondent of this dissertation
- Management information systems (MIS) from MMI was used as the basis of the study.
- Interviews regarding the chosen companies' organizational capabilities and their respective MIS were conducted with involved department heads.
- Surveys regarding the organization's efficiency and effectively were conducted, and respondents included both internal and external users (for applicable variables) of the chosen company.

On the other hand, this study is limited to the following:

- Other industries and other companies from the same industry that also utilize MIS were not included so that a more focused scope can be achieved.
- This study is only limited in the Philippines due to obvious logistical and cost constraints.
- Factors outside MIS were disregarded or just scantily considered.
- Some information requested from the companies were deemed too confidential and were not disclosed by the key informants; these included financial records, specific names of their MIS and their developers, and a variety of sensitive company documents.

FRAMEWORK

Theoretical Framework

Types of Management Information Systems (MIS)

The four categories of management information systems are based on the level of support that the information system provides in the process of decision making.

Databank Information System is responsible in observing, classifying and storing any data item that can potentially be useful to the decision maker. The information from the databank system is only suggestive and it is best for unstructured decisions.

The Predictive Information System provides data and information as well as predictions and inferences. This system assists decision makers in answering "what if" questions and it verifies if the underlying assumptions are true. Hence, this type of MIS is catered towards semi-structured decisions.

The Decision-making Information System gives professional or expert recommendations to managers in the form of a single recommended course of action or a list of possible courses of

action, all of which are according to the value system of the organization. A decision-maker only has to approve, deny or modify the recommendation, hence, making decision-making faster yet still accurate. The decision-making information system is more suitable for structured decisions.

Lastly, the Decision-Taking Information System is where the information and the decision maker are the same. It has both the abilities of the predictive information system and the decision-making information system. It is when the system is completely accurate that it creates decisions without actual managerial interference.

Operational Management

When comparing old and new systems, the costs and benefits of creating that system is to be weighed in order to know the viability. The Cost-Benefit Analysis (CBA) can be used to assess system performance. If the system is not performing well, further alternatives have to be explored in order to make the system efficient. (Picus, Adamson, Montague & Owens, 2010)

The CBA has four (4) aspects:

(1) Operational Analysis

This analysis checks if

- (a) The organizational performance is adequate
- (b) The system provides accurate and useful information
- (c) The operations provide cost-effective information
- (d) The system data is secured
- (e) The operations maximize resources,
- (f) The system provides reliable service.

Technical Analysis

This analysis looks at the proposed or other practical forms of technology. Appropriate technologies as well as users who can handle them are required in tandem.

Economic Analysis

This analysis studies the economic feasibility of the alternatives provided.

Schedule Analysis

This analysis checks if the time allotted for the proposed system is enough and if the necessary skills do not take too long to learn. It is also used to assess whether the proposed system reached the deadline.

Operational Framework



FIGURE 1

OPERATIONAL FRAMEWORK

Operational Definition of Terms

- Customer Satisfaction - how organization's offerings meet customer expectation, needs and wants
- Financial Investment - a sum of money put into an asset hoping for a future gain
- Financial Resources - all financial funds of a company that is available for spending
- Hardware – these are the physical components of the computer that enables it to run a mix of programs and processes called software
- Home and Garden – a type of industry associated with housing and gardening
- Human Resources – a group of people who make up an organization's workforce
- Industry – group of companies providing the same or similar goods and/or services
- Management Information System (MIS) – computer based system that provides upper management tools to evaluate and make decisions
- Operational Management – designing and controlling production process
- Organizational Effectively – how effective and organization is in achieving intended outputs
- Organizational Efficiency – ability to implement plans using the least amount of resources
- Utilization – to make an effective use of something

RESEARCH METHODOLOGY

Research Design

This mixed-method study used the multiple-embedded case study design in gathering as well as analyzing data. Methods to gather both quantitative and qualitative data included surveys, participation-observation and fieldwork. The survey was used in the study as it can gather data from a large population in a relatively convenient and efficient manner. Surveys are systematic, self-monitoring and representative as it is often used in research studies (Burton, 2007). Survey as a methodology studies the sampling of individual units from a population and constructs questionnaires as a form of quantitative data collection. On the other hand, participation-observation was also used in the study. Burton (2007) defined participant observation as the systematic description of behaviors in a social setting of a chosen study. Furthermore, survey forms were also deployed to assess the management information system (MIS) efficiency and effectiveness in an organization. The researcher also chose to do field work for this study since it is often used to monitor human behaviors in natural conditions of their daily life (Basinska, 2012). Hence, the researcher is closer to the real world and thus gains from immediate contact with the respondents. It is one of the best ways to discover the particular information required and to answer research problems.

Basinska (2012) emphasized the importance of fieldwork especially in data gathering in different organizations as it allows the researcher to interact, understand the people in the company, and see problems that cannot be extracted from interviews. Through the use of the data from the surveys and interviews, the proponent used 3 major methods of analysis for this study, namely, descriptive analysis, cross-tabulation and correlational analysis. Descriptive analysis is the summarization of the data retrieved from the respondents and presenting them in an easy to understand manner; this includes the mean, median, and mode. For the case of this study, however, the researcher decided not to include median as it is not relevant to the investigation. Cross-tabulation is a statistical analysis that presents the data in tables in such a way that it is easier for the reader to find patterns and trends from it; it is done by plotting the variables or sub-variables to be used against the different cases of the study. Correlational analysis is the use of statistical tools to evaluate the intensity of the relationship between variables. The correlation coefficients range from -1.00 and 1.00, negative values mean that the variables are inversely proportional, while a positive value denotes a directly proportional.

Sampling Plan

According to Robert Yin (2014), the embedded case study involves more than one unit of analysis; it occurs when, within a single case, attention is also given to a subunit or subunits. The subunits can often add significant opportunities for extensive analysis, enhancing the insights into the single case. The research studied Marswin Marketing Inc. which is in the home and garden industry of the home improvement category. The Company was screened to make sure that they have been using Management Information Systems (MIS) for at least three (3) years to account for the lag effect in innovation. The chosen company was given surveys to be answered by both internal and external users to determine the effect MIS has on employees and their customers. Furthermore, as this study used a mixed method approach, the researcher also conducted interviews with all the departments involved in using the chosen companies' MIS, as well as the finance and Information Technology (IT) departments to obtain the needed information outside of the surveys. The internal respondents refer to the employees that use the MIS and the external users refer to the long term (5-10 years) clients of the companies.

Method of Data Analysis

According to Creswell (2009), there are different approaches in a mixed method data analysis. In concurrent strategies, data can be transformed to either quantifying qualitative data or qualifying quantitative data. Quantifying qualitative data involves creating codes and themes and counting the number of times they occur in the text data which enables a researcher to compare results with the data. Another approach is to examine multiple levels. In a concurrent embedded model, surveys were conducted at one level to gather quantitative results about a sample, and interviews were done at the same time to be able to explore the phenomenon with specific individuals. When comparing data, information from both data types is combined into a matrix. The horizontal axis could be a quantitative categorical variable, while the vertical axis would be the qualitative data. Information in the cells could be either quotes, counts of the number of codes, or some combination. The matrix would be able to present an analysis of the combined data.

RESEARCH FINDINGS

Initial Analysis

As mentioned in the previous chapter, the researcher used self-administered questionnaires in gathering data from both the staff and customers of Marswin Marketing. Afterwards, in-depth interviews were conducted with the IT heads of the company so that their insights can be gathered. Both quantitative and qualitative data were collected from January 2017 to May 2017 and during this period, 33 internal customers from the respondent companies were invited to answer the survey on organizational capabilities, organizational effectiveness and efficiency, absorbed slack, and unabsorbed slack. By using correlational analysis, the researcher was able to establish the association between the variables and it further revealed whether the relationship between the constructs was significant or not. Further details regarding the statistical analysis of quantitative data gathered are shown throughout this chapter.

Demographic Profile

Company Respondents Profiling

As the company backgrounds have already been established in the previous chapter, table 1 shows the demographic profile of respondents from each company. The table also includes the profile of each IT manager (or its equivalent) who was selected for the interview. The internal respondents of the study were the IT managers of the respective companies and the users of the MIS while the external respondents of the study are the customers who avail of each company's' products and/or services. For Marswin, majority of the internal respondents are office based, 18-25 years old, and female. External respondents are all males and predominantly 41-45 years old.

Company Name	Internal Respondents		External Respondents	
Marswin	Freq count	% share	Freq count	% share
Location Warehouse Office	9	27.27%	N/A	N/A
Age	24	72.73%	N/A	N/A
18-25	17	56.67%	1	6.67%
26-30	6	18.18%	3	20%
31-35	4	12.12%	1	6.67%
36-40	1	3.03%	3	20%
41-45	0	0%	6	40%
46-50	1	3.03%	1	6.67%
51-55	3	9.09%	0	0%
56-60	1	3.03%	0	0%
Gender				
Male	12	36.36%	15	100%
Female	21	63.64%	0	0%
Marswin	Name		Rank	
IT Representative	Jason Figueroa		IT Administrator	

Website	https://web.facebook.com/pages/Marswin-Marketing-Inc/247616418610001?_rdc=1&_rdr
Types of MIS	B.A.S.I.C (Business Application Solutions Inter-Connection)
MIS Developer	Originally BMS (Brothers Management System)
	Currently SBC (Solution Based Corporation).
	http://www.mybms.com.ph/bmsHome.aspx
Investment of the	Php 100,000 - B.A.S.I.C. software

MIS	Php 9,000 - Retainer fee for developers and maintenance
Manages Maintenance of MIS	3rd party programmer and Jason Figueroa - IT administrator
Operations of MIS	8 hours a day for 5 days a week
Number of Users	33
Number of IT Personnel	1
Accounting MIS	Yes
Manufacturing MIS	Yes
Human Resources MIS	Yes
Marketing MIS	Yes

Marswin’s MIS revolves around B.A.S.I.C (Business Application Solutions Inter-Connection) which they acquired for Php 100,000 without the modules. They chose not to disclose the cost and number of modules they currently have, but they also have a retainer fee with the developer of the said system for maintenance purposes. Originally, the developer was called BMS (Brothers Management System), but when the programmer that developed the system left the company to start up his own, he brought the system with him to SBC (Solution Based Corporation). The system essentially runs 8 hours a day for all of the 5 weekdays, but there are exceptions as some of the top managers still use the system after dark (Table 3).

Table 3 ORGANIZATIONAL EFFECTIVENESS AND EFFICIENCY SUMMARY		
Organizational Effectiveness and Efficiency	Respondents	Marswin Marketing
Customer Satisfaction	Internal	Mean: 3.68 Mode: 4
	External	Mean:3.75 Mode:3

Internal

The mean score for the questions under customer satisfaction evaluation criteria showed a score of 3.68 and a mode of 4, which means that the users are almost indifferent about their system. All six questions generated a mean score that falls under the neutral response category. But even if this is the case, the scores are leaning more toward the agree response category. It can be inferred that the users somewhat agree that the MIS has reduced workload of users, increased output of users, delivered consistent and reliable output, improved the working environment in the company, promoted a user-friendly interface, and motivated their users at work.

External

The mean score for the questions under customer satisfaction evaluation criteria showed a score of 3.75 and a mode of 3, which means that the customers are happy about their system. The mean scores computed for a majority of the ten questions show that most respondents tend to agree more than they disagree with the items. It can thus be inferred that the customers agree that the MIS has increased the accuracy of the output and reduced the time needed to receive the output (Table 4).

Table 4 ORGANIZATIONAL EFFECTIVENESS AND EFFICIENCY SUMMARY	
Operational Management	Marswin Marketing
Operational	Mean: 3.55 Mode: 3
Technological	Mean: 3.59 Mode: 4
Economic	Mean: 3.40 Mode: 3
Scheduling	Mean: 3.59 Mode: 4

Operational

The mean score for the questions under operational criteria showed a score of 3.56 and a mode of 3. Seven questions resulted in mean scores that fall under neutral, but leaning more towards agree. It can be inferred that the users somewhat agree that they are able to deliver maximum productivity levels, processed information is easily accessed, workforce has been reduced due to the MIS, users have minimal difficulty in utilizing MIS, and the users are confident about the security of the data uploaded into the MIS.

Technological

The results under the technological criteria showed a mean of 3.59 and a mode of 4. The first four questions, user is familiar with every aspect of MIS; user is familiar with how the process works; current MIS is using appropriate/up-to-date technology; current MIS often crashes and experience traffic, have mean scores which fall under neutral, but leaning towards agree. It can be inferred that the users somewhat agree that they are familiar with every aspect of MIS, they are familiar with how the process works, the current MIS is using appropriate technology, and that the current MIS often crashes and experiences traffic. The fifth question, the MIS requires constant upgrades/updates to function, has a mean score of 4.09. It can be inferred that users agree that the MIS requires constant updates to function.

Economic

The mean score of the questions under the economic criteria showed a score of 3.40 and a mode of 3. Questions 17 to 21, acquisition and installation of hardware and software incurred high costs; operational fixed costs being incurred are high; operational variable costs being

incurred are high; the user is not stressed upon using the MIS; hence, it is considered to be more beneficial and practical; operations of the MIS incurred unnecessary costs, have mean score that fall to neutral, but leaning towards agree. It can be inferred that the users somewhat agree that acquisition and installation of hardware and software incurred high costs, operational fixed costs being incurred are high, operational variable costs being incurred are high, they are not stressed upon using the MIS, and the operations of the MIS incurred unnecessary costs. Questions 22 and 23, the MIS is more time efficient and more cost effective; MIS has established strong relations and good communication with other participants, has a mean score that fall under agree. It can be inferred that the users agree that the MIS is more time efficient and more cost effective and that the MIS has established strong relations and good communication with other participants.

Scheduling

The mean score of the questions under the scheduling criteria showed a score of 3.59 and a mode of 4. All questions have mean score that display agreement. It can be inferred that the users agree that training in the usage of the MIS required minimal time and effort, it took a while for MIS to be implemented and used in the workplace, idle time was removed with the use of MIS, employees are able to organize their work and time more efficiently, and that the MIS helped the users achieve their work efficiently (Table 5).

Table 5 FINANCIAL INVESTMENT SUMMARY	
Financial Investment	Marswin Marketing
	Mean: 3.46 Mode: 3

The mean score of the questions under the financial criteria showed a score of 3.46 and a mode of 3, which means that current system more or less meets their expectations of it. All questions have mean score that display agreement. It can be inferred from this that the users agree that the benefits of installing an MIS outweigh the costs, the MIS significantly improved the company’s budgeting, the MIS helps the company minimize operating expenses, the MIS has made the company make better decisions regarding financial matters, and that the MIS allowed the users to have a better understanding of the company’s financial data (Table 6).

Table 6 ORGANIZATIONAL EFFECTIVENESS AND EFFICIENCY CROSS-CASE ANALYSIS			
Marswin Marketing Inc.			
	Survey	Interview with IT Manager	Company Documents
Organizational Effectiveness and Efficiency	Mean: 3.56 Mode: 3	The MIS has significantly helped the company become what it is today. Employees are more engaged and productive.	The timesheet of the employees show less overtimes as compared to prior implementation of MIS

Customer Satisfaction	Mean: 3.68 Mode: 4	The employees were trained but were not completely satisfied as their training was minimal	No company documents available
Operational Management	Mean: 3.53 Mode: 3	The users have little to no complaints about how the system affects their work	No company documents available

Customer Satisfaction

The IT admin is assured that the MIS significantly help the company to become what it is today. Employees become more engaged and at the same time productive in their work. The employees agree that the MIS significantly allowed them to become more productive and efficient at work, since it is easy to use and is reliable enough to help them finish their work. Overall the employees are satisfied with the current MIS being used by the company.

Operational Management

The MIS is able to deliver accurate data and information is easily accessed by its users. However, not all employees are fully aware of the different functions of the entire system but are able to do their jobs accordingly. Although with that being said, the IT admin believes that the current system is still reliable enough to suit the company's daily objectives.

The employees agree that it reduced the amount of workload they have. Not only is the system easy to use, but it also made their work easier, It saved a lot of their time because everything they need is within the system already.

Financial Investment

The MIS as helped make better decisions with regards to their financial since better analysis, and balance sheets are created with the use of the system. The MIS also paved way to create a better understanding with regards to the company's financial data.

The employees agree that the benefits of the MIS outweigh the cost associated with it. Not only did it benefit the employees a lot, but the impact it gave to the financials of the company is substantial.

CONCLUSION AND OBSERVATION

Generally, the home and garden industry utilizes transactions management software and report-generating software as components of the MIS. Transactions management software is needed in the MIS because it is the source of input for the system. Companies may install different software for different kinds of transactions like sales, purchases, and inventory. But among the companies in the home and garden industry, the most common type of MIS that is used is the accounting and finance MIS since it is the most suitable one for their operations. Aside from these, Marswin also uses a manufacturing MIS to keep track of its processes. For every type of business, there appears to be an optimal MIS model that is being adopted by each one of them. One has to always consider the type of industry, company size and financial capabilities. To date, many business establishments do not use MIS and this is particularly true for micro and small enterprises. However, in the home garden industry even small companies like Marswin Marketing have tried using MIS and has seen good results. The MIS models used

by each of the companies in this research are almost the same. For companies like Marswin Marketing Inc., MIS significantly improves their efficiency towards providing the needs of the company and its customers.

Based on the information gathered from interviews, it can be concluded that they have the appropriate organizational capability to run the MIS. In terms of employees, no user is allowed to operate the system unless they have received proper training and have exhibited their aptitude in using the system. The MIS is also widely received in each organization because of how it eases their workload. Feedback from the users is also taken into consideration every time an update or upgrade would be scheduled.

Physically, the company ensured that the system is running on compatible hardware. Each company also has backups in case of accidents that may compromise the contents of their databases. The company has contracted with 3rd party vendors in order to maintain the system. They are able to receive technical support whenever needed.

Despite the heavy initial investment needed for the MIS, the companies are still able to maintain, manage, and operate the system. Investing in the MIS has also improved the management of financial resources in the companies as it is easier for them to make decisions with the system.

The Management Information System managed to bring about improvements on the business processes of all the companies in terms of customer satisfaction, operational management and financial investment. The MIS also increased the motivation of the employees as it reduced the burden due to the heavy workload. The customers are satisfied with the use of the information system. Among the survey participants, none demonstrated dissatisfaction over its information system. Moreover, the system was revealed to deliver consistent and reliable data. The data produced by the system is also reported to be accurate.

The Management Information System is able to deliver maximum productivity since it produced timely and accurate data. The information stored can easily be accessed and it has a friendly interface. Thus, the users experienced minimal difficulty in using the information system. Although training was a part of executing and using the system, the users had the appropriate skills in using the system and the training was said to be useful but not necessary. Moreover, the employees were able to organize their work with the use of the system.

In terms of the system's financial management, the MIS increased its effectiveness and efficiency by streamlining the task of budgeting since the data retrieved are accurate and up-to-date. The companies also agreed that it helped in minimizing the operational expenses of the company and it generates user-friendly financial data.

In terms of performance, the users are satisfied in using the system. As it has lessened their burden, it also has paved way for accurate and reliable data generation. As the processes of the company has become automated, the users received proper training to effectively and efficiently operate as well as manage the system. Furthermore, the system is accessible and has a friendly interface.

The MIS infrastructures of the companies are somehow similar with each other. Computers are needed to keep the program running and updates are being done to catch up with the recent improvements and changes with the system. External IT personnel are present whenever needs or problems arise. They help maintain the company's system. All the data produced by the system are disclosed for documentation purposes.

In terms of the context, MIS has created an impact to its users. At first, there was a difficulty of shifting from the old to the new system; however, it did not last. The companies created policies from which the users are guided in properly operating the system. Moreover, security is of utmost importance especially as it pertains to the system's data; thus, maintenance is done regularly to assure the reliability of the system.

The system's exposures to risk are not that alarming. The risks are highly dependent on how the users encode data and how the system is being managed by its users. Failures and

errors might happen when inaccurate data is encoded in the system. However, equipment failures happen from time to time. It is experienced by the companies and it somehow cannot be avoided. Thus, the companies exert their best efforts to maintain the system and this is done by maintaining good relations with their vendor.

The researcher identified several strengths of utilizing the MIS in the companies under study. The MIS helped the firms to better process data into useful information. With large amounts of data coming in every day, managers do not have the time to sort everything manually. Instead, they can use queries on the things they want to see, consolidate the data, and then print.

Relating to the aforementioned, the MIS has also significantly reduced paper trail from each company. It also made the companies become transparent internally because all transactions are recorded, which means it can be reviewed by management any time they wish. Their previous systems were not automated, so when looking for necessary documents, the employees had to the storage room to manually find the necessary documents. It took time away from their intended productive hours. Now, they save time because most information are just a click away; this has also reduced discrepancies and mistakes caused by human error.

The researcher has identified several weaknesses of utilizing the MIS in the companies under study. It can be noted that based on the interviews, each company relies heavily on the output created by the system in order to make decisions. Outputs are affected by the quality of the inputs into the system. Should there be inaccuracies in encoding data, resulting output will be faulty. It therefore becomes imperative that all transactions must be captured accurately and completely.

With growing companies such as the ones under study, data input is constantly increasing. The MIS would need more processing power, and this entails additional investments in hardware and software. As long as the company has enough financial resources to maintain and operate the MIS, this will not be a problem.

After scouring through various literatures and assessing the results of both surveys and interviews, the researcher summarized the business practices that organizations in the home and garden industry should try to follow in order to maximize their levels of innovation. The managers.

- a) Should have an active role in monitoring the system.
- b) Organizations should integrate their company policies into their processes to reduce policy, (c) they should keep their hardware and software updated.
- c) They should ensure that their system is always up-to-date.

While it isn't necessary to always match their software and hardware together, it would be better for them to purchase software and hardware with an eye on the future so that any updates or changes to the system would still be compatible to the one they have.

Future Areas of Research

Organizations who strive for long term success and survival should always know the right time, place and way before initiating the change. Companies should know which type of innovation should be in their priority for funding. As the types of innovation a company wants to implement increases, the more expensive it will be for a company to proceed with this undertaking. Furthermore, companies should also be updated on the current state of their respective industries since unabsorbed slack can be risky and at the same time inefficient when utilized incorrectly. Organizational slack is not a hindrance for growth when the company is aware of how to use slack to its advantage. Employees can either embrace or ignore the innovative values of the company based on how they wanted to act.

Organizational slack is usually not being utilized by most companies, since most of them are either unaware of it or they plan to eliminate them completely when detected. It is a variable that has yet to be further researched in terms of its possible benefits for a company. Most of the employees in the respective companies had a hard time understanding the essence or need for organizational slack. There may be other more relevant variables that will be influenced or influence organizational slack.

Having said these, the following are the possible topics that future researchers can investigate in relation to the study:

1. A Quantitative and Qualitative Analysis on the Negative Impacts of Installing Management Information System: Case of ABC Company.
2. Determining the Impact of Implementing a Management Information System on Organizational Innovations
3. A Quantitative Analysis on the Financial Impacts of Absorbed Slack: Case of ABC Company.
4. An Analysis on the Financial Impacts of Absorbed Slack: Case of ABC Company focusing on one way ANOVA and central tendencies.
5. A Qualitative Analysis on the Effects of Slack using Qualitative Data Analysis Software: Case of A, B, and C Company.*

RECOMMENDATIONS

After a thorough analysis, the researcher would like to propose several recommendations. Using the correlational analysis of the 3 company's slack and innovation as well as the insights gathered after conducting the interviews, an in-depth discussion will be provided for each stakeholder that would be benefit from this study.

Marswin Marketing

To maximize innovation, it would be advisable for Marswin to increase unabsorbed slack by investing more in excess resources (e.g. resource buffers) as doing so will improve the company's organizational innovation. For Marswin's absorbed slack, it would depend on the type of innovation they prioritize; if they target organizational innovation further, they should minimize absorbed slack by keeping track of excess costs, and should they want to promote strategic innovation, Marswin should spend more on investments.

Marswin Marketing should also consider building an IT team, as they are currently dependent on the sole IT person Mr. Jason Figueroa. There may come a time when he alone may not be enough to handle the technical problem/s so an additional staff member to aid in system maintenance must be hired.

Additionally, it would be advisable for the employees to receive additional training in using the system since the employees are somewhat unsatisfied with the current training they had. Doing so would increase their competence and satisfaction. he employees should also be trained with even the basics of internet and computer security in order to prevent cyber-attacks.

Home and Garden Industry

As revealed by the companies in the study, the MIS helped them make their data more accessible and secure. With the use of MIS, it vastly increased their productivity and improved the overall process of the system. Thus other companies may opt to start to use MIS if they have not yet done so; and if they currently use MIS, it would be advisable to keep up with the updates of the system.

Academey

There have been several studies arguing the influence of MIS, and whether organizational slack is actually beneficial or not. Additionally, there is scant literature in the Philippine setting regarding these topics. But after the gathering and analyzing of data for survey and interviews, there have been new data and information that has come to light. This might further enrich the literature already established regarding MIS, absorbed and unabsorbed slack, and innovation models. It is recommended that the academe further pursue studies along these topics.

Future Researchers

Future researchers must take into consideration the size of the company they are studying. Big companies will have little to no time to entertain such extensive scholarly undertakings. Future researchers must be patient with respondents and key informants since answering interviews and surveys will interrupt with their work. It is also encouraged that future researchers do their best to improve the survey questionnaires as it was deemed too long by many respondents under the study.

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