

## THE INFLUENCE OF MANAGEMENT INFORMATION SYSTEM TO MANAGEMENT CONTROL SYSTEM

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### Abstract

**Purpose** – The purpose of this paper to recognize the most important indicators of management information system that can influence the management control system.

**Design/methodology/approach** – this study uses meta-analysis as the explanation approach as finding out the indicators of management information system that can influence the management control system may necessary be approved by empirical study for the next future research.

**Finding** – The indicators of management information system supporting the quality of management before the management control system can be fully implemented.

**Originality/value** – The characteristic of each indicator of management information system brings the information that shows the result from that information so that by studying this information at each different kind of situation will affect not only management quality but also the different strategy of management to applied control system based on the knowledge management level.

**Keyword** : management information system, information, management quality, management strategic, management control systems.

### 1. INTRODUCTION

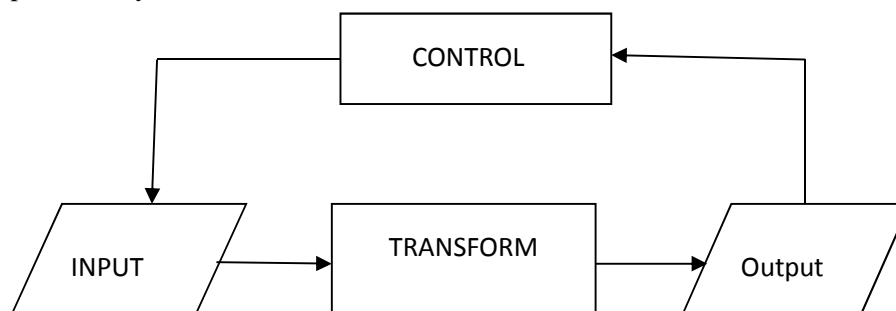
As the comparison between developed countries and developing country, hereby, the management information system seems the most important thing to perform in order to broad up management control systems of the companies around the world.

For example, based on management information system, one company may consider as the tools of broaden marketing around the world so that the product that may be necessary to be purchased by the consumers seems very easy to bring the benefit for the user to be purchased and get the product quickly.

More, nowadays management control system becomes one company necessity in developed countries compared to developing countries that still have limited information related to companies information, for example, small medium enterprises in developing countries is less informative than developed countries.

System itself, is used in relation to business operations, it identifies a group of elements or parts that are integrated through the common purpose of achieving some objective.

Component parts of a system



A control mechanism monitors the system and regulates its operations so that the transformation process is executed properly. The input consists of basic resources-machinery, materials, money, personnel, and information. The transformation process converts these resources into the output of the firm-products or services. The control is performed by the management.

Management information system can be defined as :

*“The formal and informal system that provide past, present, and projection information in a written and oral form relating to the firm’s internal operations and its environment. It supports the managers and employees and key environmental elements by furnishing information in the proper time frame to assist in decision making”.*

The system approach serves as a bridge between the problem and Decision Support System (DSS), providing a framework for the various decisions.

Jay W. Forrester, an MIT Professor, recognized the need for theory in business:

*“To develop the status of a profession, management must be discovered the underlying principles which unify its separate aspects. It must develop a basic theory of behavior. It must learn how to convert experiences and particular case examples into a contribution to this general theory. And it must be able to employ the basic principles of theory as a useful practical guide for explaining and solving new problem as they arise. By accomplishing these aims, management will become a true profession during the next generation”*

A starting point in Decision Support System (DSS) is the decision making process, is the broader system that bridge between Management information system and Management control system.

As the background of some theory of decision are :

1. Simon’s types of decision making have phases : intelligence activity (searching the environment for conditions calling for decision); design activity (inventing, developing, and analyzing possible courses of action); choice of activity (selecting a particular course of action from those available); review activity (assessing past choices)
2. Mintzberg’s decisional roles plays four roles : entrepreneur, disturbance hander, resource allocator and negotiator.
3. Melcher’s degrees of decisional responsibility relationships that identifies seven categories : general responsibilities (the person who provides overall guidance and direction to an activity, working through the person who has operating responsibility); operating responsibility (the person directly responsible for executing an activity); specific responsibility (the person responsible for executing a portion of an activity); must approve (the person other than the ones holding general and operating responsibility who must approve or disapprove the decision before it is implemented); must be consulted (the person who must be called upon for advice or information before a decision is made); may be consulted (the person who may be called upon for advice or information before a decision is made); must be notified (the person who must be notified of a decision after it has been made).
4. An integrated decision model : Simon recognized both the structural differences in decisions and the way decision making evolves over time-from intelligence to review activity. Mintzberg saw organizational and environmental influences producing different types of decision making behavior, and Melcher recognized the varying degrees of responsibility that might exist. Three views of decision making can be combined into a single model.

Previous researcher mentioned that information system as a reference discipline based on the theories and methods of these disciplines serve to set the standards by which the quality and maturity of IS researched should be measured (Richard L. Baskerville, Michael D. Myers, 2002). Another researcher investigates assessing the impact from information system quality with the objectives of exploring the system quality based on test integrative model, which includes system quality as a determinant of the extent of system usage, the benefits derived from the system and the system impact on the user’s jobs (Tor Guimares, D. Sandy Staples and James McKeen, 2007). Previous researcher also examines the need for IS assessment and suggests a comprehensive IS assessment framework linked to the organizational performance using existing IS assessment theory as a base and incorporating measurement concepts from other disciplines (Barry L. Myers, Leon A Kappelman, Victor R. Prybutok, 1997). More, previous study

provides the first empirical test of an adaptation of DeLone and McLean's Model in the user-developed application domain. The model provided strong support for the relationships between perceived system quality and user satisfaction, perceived information quality and user satisfaction, user satisfaction and intended use, and user satisfaction and perceived individual impact. (Tanya McGill, Valerie Hobbs, Jane Klobas, 2003); also, study using DeLone-McLean Model to show that perceived system quality and perceived information quality are significant predictors of user satisfaction with the system, but not of system use. User satisfaction was found to be strong predictor of individual impact, whereas the influence of system use on individual impact was insignificant (Juharni Livari, 2005).

When the management information system goes to have decision support system the management control system may depend on the information quality that performed by the information system as reference discipline.

Management control system as the expert stated by Marciariello and Kirby is tools of communication structure that has relationship that is giving information process easily with aim to help managers in order to coordinate the existing part and reach the organization goal continuously.

Previous research describes the information system effectiveness to senior management (Mary C. lacity, Rudy Hirschheim, 1994); Information System (IS) function support in evaluating performance in one organization (Ahmad A. Rabaa'I, Guy G. Gable, Wasana Bandara, Erwin Felt, 2010). More, previous examined than manager do dysfunctional behavior by manipulating information to the budget and choose better information and feasible for the most advantage situation for the manager purposed, here, part of management control system activities do by manager in one firm (Lili Sugeng Wiyantoro, Arifin Sabeni, 2007). Another research tested influence of information technology relatedness to corporate performance that integrated in Indonesian companies through intermediation knowledge management capability.

## 2. LITERATURE REVIEW

### **Based on Al Qur'an : Yunus 5**

*It is He Who made the sun a shining thing and the moon as a light and measured out for it stages that you might know the number of years and the reckoning. Allah did not create this but in truth. He explains the Ayat (proofs, evidence, verses, lessons, signs, revelations, etc) in detail for people who have knowledge.*

### **Based on Al Qur'an : Yasin 38**

*And the sun runs on its fixed course for a term (appointed). That is the Decree of the All-Mighty, the All-Knowing.*

The two Ayat above show the source of information that may very useful for the broader knowledge for management to be performed in many researches related to management information system as following :

1. Information quality : when the information is performed the aim
2. Information process : when the data may occurred by its event
3. Information advantages : when the information is bring result to create one needs
4. Information performance : when the information is bring satisfaction to the information users
5. Information assessment : when the information is needed being upgrade for the higher purposed
6. Information evaluation : when information is accurately and properly performed will need the higher integration aims or even changes.

Substantially benefit from the available technology, the decision maker should be able to efficiently locate and access the need theories, all the broader knowledge for management level are performed by managing and controlling the source of information above so that will bring result to do decision making to solve the organization problems.

Knowledge for management refers to two objectives:

1. In order to substantially benefit from the available technology, the decision maker should be able to efficiently locate and access the needed information/resources in a timely manner.
2. Another objectives relies more on human capabilities of analysis and decision making.

Knowledge Management is very useful for management control system. It means also showing the quality of management. Previous research addressed the need for a strategic decision making tool to assist management in determining which Knowledge Management construct is most beneficial in the development of an agile supply chain (Mahesh S. Rasinghani, Laura L. Meade, 2005).

**Based on Al Qur'an Al An'am 123:**

*And thus We have set up in every town great ones of its wicked people to plot therein. But they plot not except against their own-selves, and they perceive (it) not.*

**Al Qur'an Yusuf 55:**

*Yusuf (Joseph) said: "set me over the store-houses of the land; I will indeed guard them with full knowledge (as a minister of finance in Egypt).*

*MIS is a critical component of the institution's overall risk management strategy. MIS supports management's ability to perform such reviews. MIS should be used to recognize, monitor, measure, limit, and manage risks. Risk management involves four main elements:*

- Policies or practices.
- Operational processes.
- Staff and management.
- Feedback devices.

According to Matthew W. Ford & Bertie M Greer based on survey in management control system usage and planned change it shows that in service sector vision and mission diffusion approach 83% (eighty three percent); In manufacturing sector the planned changed of work team empowerment approach 100% (hundred percent) and outsourcing of assembly process reached 85% (eighty five percent); production creation team structure reached 81% (eighty one percent); and pay-for performance incentive system reached 92%.

Previous researcher explored the extent to which managers believe their management control systems are employed when implementing planned change. (Matthew W. Ford & Bertie M Greer, 2005).

A decision support system can provide :

- Comparative sales figures for one week/month and the next
- Projected revenue figures based on new product sales assumptions
- Consequences of different decision alternatives, given past experience

On the other hand, previous researcher stated that decision making process and its impact on top level management in a business organization is explained with an emphasis on automated decision making. The researcher discussed about limitation and challenges of MIS and six recommendations proposed for increasing the effectiveness of MIS in the decision making process (Srinivas Nowduri).

### **3. MAIN DISCUSSION**

A starting point in Decision Support System (DSS) is the decision making process, is the broader system that bridge between Management information system and Management control system.

Preliminary – Human resource with knowledge management are essentially to do decision making which usually decisions making are made by management and stakeholders in the organization and not the managers.

In related to this, the management has to know how to choose varieties of information system which each plays a different role in organizational hierarchy and decision making process (Asefeh Asemi, PhD, Ali Safari, PhD., Adeleh Asemi Zavareh, PhD., 2011).

To support the observation above, Management control system is doing by management level know how well the management using the existing and available information in order to perform his or her organization by having beneficial through Management Information system whereas the management information system is supporting growth of the quality of information itself.

As a key consideration, Management information system that used by managers may necessarily to be evaluated the expert of human resource who used the management information system in order to do decision making in term of management control activities. Management control system influences the

behavior of organizational resource to implement organizational strategies (Dr. Habibollah Salarzahi, Dr. Baqer Kord, 2010).

Essentially, the management level who used the system has to be established their system in getting information in MIS, which it can be lack of information based on limitation of knowledge management for management level to perform and manage the good information through the systematic tools, timely information and adequate managerial policies and regulations. Previous researcher presented research model that examined the relationship between the design and use of management control systems and their direct or indirect impact on IT performance (Son Sertac, Wietzel, Tim, Gladyszewski).

Furthermore, MIS with good quality information is very crucial in helping business checked and balanced in order to keep management control system properly. The researcher provides a framework to estimate the perceived value of management control in IT organizations. (Son Sertac, Wietzel, Tim, Gladyszewski).

In addition, most MIS will do updating of the occurrences in company or system. This immediate acts may helps managers to take actions properly especially when they discovery and management of crises while they are implementing management control system.

Still, management information system (MIS) is very easy to be improved and programmed by the owner to conduct certain actions in certain times. Every organization needs their complete and comprehensive system for all organizations (Dr. Habibollah Salarzahi, 2010).

As fundamental point, a good number of MIS used today can perform multiple tasks all at the same time (Srinivas Nowduri). Tools of DSS, the broader system as the bridge between Management Information System (MIS) and Management Control System (MCS) will help managers to do more accurate actions with multitask that will increase efficiency in a company or organizations.

On another level, Management information system give huge contributing to manage information that is very useful for the company in order to do decision making when the management level implement management control system for the company performance. One researcher proposes a framework for analyzing the operation of management control systems structured relate to objectives, strategies and plans, target setting, incentive and reward structures and information feedback loops which all the necessity is for taking actions on decisions making and implementing the management control for good company performance. (David Otley, 1999).

Again, Management information system is supporting management control system with its operation on systematic methods of operations. MIS tends to be more practical business tools and well performed to do decision making.

Finally, Decision Support System in operation method while using management information system will supporting management activities daily to implement the business plan and company strategy based on the human resource with have knowledge management to play all role and operate all the system in order to take decision making.

#### **4. CONCLUSION AND SUGGESTION**

A Decision Support System (DSS) has been developed to enable those involved in operational planning or delivery of possum control to access available relevant knowledge when making operational decisions. (Bruce Warburton, Jim D Coleman, Mark Fuglestad, Jens Dietrich). Due to DSS limitation, it may depends on certain discipline that use this knowledge management as tools for decision making. It needs development of the DSS that has three component (Bruce Warburton, Jim D Coleman, Mark Fuglestad, Jens Dietrich) as following :

1. Checklists that ensure users consider relevant constraints and issues when planning a possum control operation.
2. Database of best practice information on possum control
3. An "expert" system that recommends actions based on information provided by the user.

On the other hand, the level of skills of human resource in management level and each qualification may differently performed based on managing information quality, information process, information

advantages, information performance, information assessment and information evaluation that necessary for company strategy implementation.

However, the development of DSS is still necessary as any developed disciplines especially such as IT user with knowledge management that bring result the accuracy and available information up to date all the time in performed the capability of making decision using all that information.

When DSS is supporting management control system implementation, it will automatically perform the coordination, communication, and positive outcomes with effective use to IT users. It still need more empirical studies in order to ensure the effectiveness of upgrading software that may needs for each discipline users such as IT users related management information system and management control system. MIS had been aimed at middle –level managers and broader to DSS at top level executives, although that is not a distinguishing characteristic. Generally, Determination on the effects of IT acceptance on an assessment of firm performance based on achieve goals, increase operational efficiency, cut costs, add business values, reduce operating budgets, reduce costs of customer services, increase revenues, increase services to customers, reach target customers, and add value to customers with e-business systems (Supattra Boonmak, 2007). .

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