

Information System in Enhancing Managerial Competencies: An Organisational Perspective

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Abstract: Information system in organisation better known as Management information system (MIS) deals with improving the performance of organizations and people through the use of information technology. The four distinct components of MIS are: information strategy, information technology strategy, information management strategy, and change Management/ implementation strategy. This paper focuses on management information system competencies and strategies. The specific fields in which MIS has become invaluable like Strategy Support, Data Processing. MIS resources can be divided into three broad categories: human, technological, and relationship resources. Consistent with the importance of intangible resources, the paper focuses on the intangible dimensions of these three resources. Specifically, it includes MIS human capital, IT infrastructure flexibility, and MIS partnership quality and shows how each of these resources will have a direct positive relationship with MIS competencies. Secondly, competencies are socially complex routines that determine the efficiency with which organizations transform inputs into outputs. MIS competencies can be divided into three categories—foundation competencies, management competencies and portfolio competencies. Thirdly, MIS strategy is a plan for developing management information systems, which maximize the ability of the organization to achieve its agreed objectives. A strategy providing the framework for the organization for ensuring competencies between systems, prioritizing development, and encouraging the elimination of redundant systems is suggested in the paper.

Keywords: *Management information system (MIS), MIS resources, MIS competencies, MIS strategy.*

I. INTRODUCTION

MIS is developed to improve business system for managers, provide business information including budgetary, financial and program performance. In addition to this MIS replaces obsolete, non-integrated reporting and data systems. MIS is a discipline, combining technologies, personnel, processes, and organizational mechanisms. Clearly, the success of MIS is measured in terms of individual and organizational performance. However, deploying information technologies in an organizational setting requires a wide range of competencies.

The MIS needs to be skilled at building business relationships, acquiring the necessary technologies, and preparing the organization for change.

A. *The Role of MIS*

Information technology is partly responsible for the paradigm shift (A change, a new model,) from support to contributing to organizations profitability, from efficient data processing shops to understanding the goals and objectives of an Organization; to participating directly in the decision-making and strategy formulation.

Besides these factors, MIS plays very important role in:

- Implementing Information System Architecture, which comprises of the IT infrastructure of an organization: Hardware, software, and communications?
- Simplifying organizations.
- Flattening hierarchies.

- Shifting emphasis on competition to simplification.
- Linking IT with business strategy.

B. Principles of effective information management

- Recognize (and manage) complexity
- Focus on adoption
- Deliver tangible & visible benefits
- Priorities according to business needs
- Take a journey of a thousand steps
- Provide strong leadership
- Mitigate risks
- Communicate extensively
- Aim to deliver a seamless user experience

C. Information Management challenges

- Large number of disparate information management systems.
- Little integration or coordination between information systems.
- Range of legacy systems requiring upgrading or replacement.
- Direct competition between information management systems.
- No clear strategic direction for the overall technology environment.
- Limited and patchy adoption of existing information systems by staff.
- Poor quality of information, including lack of consistency, duplication, and out-of-date information.
- Little recognition and support of information management by senior management.
- Limited resources for deploying, managing or improving information systems.
- Lack of enterprise-wide definitions for information types and values (no corporate-wide taxonomy).
- Large number of diverse business needs and issues to be addressed.
- Lack of clarity around broader organizational strategies and directions.
- Difficulties in changing working practices and processes of staff.
- Internal politics impacting on the ability to coordinate activities enterprise-wide.

II. MANAGEMENT INFORMATION SYSTEM RESOURCES

MIS resources can be divided into three broad categories— human, technological, and relationship resources. Consistent with the importance of intangible resources, the paper focuses on the intangible dimensions of these three resources. Specifically, it includes MIS human capital, IT infrastructure flexibility, and MIS partnership quality, and posits that each of these resources will have a direct positive relationship with MIS competencies.

A. MIS Human Capital

MIS human capital is an important input in the development of MIS competencies. We focus on two key indicators of human capital—skills and specificity. Skills pertain to the extent to which an individual have the requisite technical and business skills, and specificity pertains to the extent to which MIS personnel have organization-specific knowledge such as an understanding of the culture and routines of the organization. MIS activities are generally considered knowledge-intensive and requiring specific technical skills. Moreover, appropriate business and interpersonal skills are needed to effectively deliver MIS services to end users.

B. IT Infrastructure Flexibility

IT infrastructure is a set of shared technology resources that provide a foundation enabling present and future business applications. We focus on one intangible, but important, aspect of the IT infrastructure—flexibility—and posit that IT infrastructure flexibility will have a positive relationship with MIS competencies. A flexible IT infrastructure enhances the organization's ability to deliver technical solutions quickly and more effectively.

Platform readiness for new software, easy access to relevant data, and the presence of necessary networking systems enable an organization to provide faster, more cost-effective MIS solutions to end users.

C. MIS Partnership Quality

The ability of the MIS unit to deliver its services is dependent on an effective partnership between MIS and line managers. MIS and line managers must develop an appreciation and understanding of each other's environment, which has been found necessary for MIS to deliver value to the organization. In addition to internal partnerships, the relationship an MIS unit has with vendors and service providers can be an important determinant of its competencies. The rapid rate at which new technologies emerge makes it impossible for MIS units to invest resources in developing the knowledge to assimilate and deploy these technologies effectively. Thus, technical knowledge and other resources needed to effectively deliver MIS solutions might be dispersed within and outside the organization. MIS organizations intending to develop strong competencies will have to develop effective partnerships with vendors to tap into these resources, and MIS units with good vendor relationships can be expected to tap into external resources better than those that do not have effective external partnerships.

III. MANAGEMENT INFORMATION SYSTEM COMPETENCIES

Competencies are socially complex routines that determine the efficiency with which organizations transform inputs into outputs. MIS competencies are the routines within the MIS department that enable it to deliver IT services to the organization. MIS competencies can be divided into three categories - foundation competencies, management competencies and portfolio competencies.

A. Foundation Competencies

Foundation competencies are associated with changes in an organization's MIS architecture and needed for projects involving changes, addition, and replacement of components and interfaces of a work system.

- Integration of MIS and business MIS can be required to integrate business processes and technology in new ways. Changes in business processes may be external, as well as internal.
- IT architecture and infrastructure MIS may require new IT infrastructure. Also, changes in business process may require the system to rethink existing technical components and linkages. Technical competencies deploying a technological innovation
- Often call for new technical skills and procedures.
- Technology requires the system to build data linkages to handle transactions with business partners.
- Business competencies In order to gain the expected benefits from a technological innovation, organizations often change their business process, business models, and organizational structures. Back office functions, as well as sales, marketing, and customer Service operations may need to change.

• External data standards the ability of the organization to adopt new data standards becomes important when building technical linkages with business partners. If industry data standards are not available, the system may need to develop new standards to support linkages with multiple business partners.

B. Management Competencies

Management competencies are needed to build and deploy information systems that must successfully meet the unique requirements of several business organizations.

- Change management: In order to gain the expected benefits, several departments or business partners must substantially change their business process. The system is expected to assist several business organizations in effectively using the technical solution.
- Informed IT sourcing: It means vendor selection and Management. Managing technology development and knowledge transfer by vendors is important with complex applications. The technology is considered less valuable if the system does not have a good understanding of the application.

- **MIS management:** It means system development. Time and cost constraints may not allow the system to craft one-off solutions for several departments or business partners. New MIS management approaches using component assembly, middleware, and rapid Prototyping are needed to develop the applications.
- **Project management:** The system is faced with managing multiple client organizations with complex features for each client. Skills and procedures are needed to ensure that all tasks and issues are addressed for each client.

C. *Portfolio Competencies*

Portfolio competencies related to sets of information systems and needed for the planning and execution of several technology projects.

- **Strategic thinking of business and MIS:** Business and MIS managers need to improve long-term planning to gain business benefits from several technology initiatives. Strategic thinking is needed for effective alignment of business and technology initiatives over time.
- **Building relationships with business areas:** Lack of trust between business and MIS managers adversely affects the deployment and use of technological innovations. Relationships are needed to maintain the momentum of business and technology change through a series of technology projects.
- **Management of the MIS department:** Problems with MIS • department planning, staffing, and controlling typically affect several technology initiatives. Also, support for current technologies is often affected.

IV. MANAGEMENT INFORMATION SYSTEM STRATEGIES

MIS can be an integral part of core competency development in two ways. First, by improving work practices and communication to ensure resource-based competencies are understood and used across the organization, and second, by considering the differential advantage that can be leveraged through making competencies rare, valuable, difficult to imitate and with no strategically equivalent substitutes.

A management information systems strategy is a plan for developing management information systems, which maximize the ability of the organization to achieve its agreed objectives. A strategy provides the framework for the organization for ensuring competencies between systems, prioritizes development, and encourages the elimination of redundant systems. A successful MIS strategy brings the following benefits:

- Information systems opportunities and needs are identified and prioritized according to public service objectives rather than to technical criteria.
- Top management develops commitment to a strategic vision for information systems.
- Competency between information systems is ensured, thus avoiding wasted investments.
- Attention is focused on the need to eliminate or re-engineer redundant information systems, reducing the very significant risk that poor systems will be expensively computerized.
- MIS strategy has four distinct components: information strategy, information technology strategy, information management strategy, and change management/ implementation strategy.

A. *Information Strategy*

Information strategy acts as the linchpin between the academic strategy and the MIS strategy. It answers the questions: what information is required? And where is the information required to support the primary tasks, or key goals, of the academic strategy. It also questions the appropriateness of the critical assumptions behind the academic strategy in light of the changing environment and changing perceptions. This assessment and review process is one of the core concepts behind this model. Thus, strategy should have both deterministic and emergent elements.

B. *Information Technology Strategy*

Information technology strategy is of secondary importance: it is concerned with applications and platforms, the 'nuts and bolts' of how to provide the information. Thus, it is concerned with the technological infrastructure necessary to fulfill the requirements of the information strategy [8].

C. *Information Management Strategy*

Information management strategy is concerned with how the information services are organized for the different facets of the institution (i.e., centralized, distributed, out-sourced) and policy issues such as who gets access and what level of access they receive [9].

D. *Change Management/ implementation Strategy*

Change management/ implementation strategy will identify what organizational change will be needed for the information systems strategy to be successful and when it will be implemented and by whom. Importantly, those who will implement the strategy should be involved in its formulation and specific plans and budgets should be drawn into the process here.

V. METHODOLOGY

- Development of an approach to creating MIS Strategy Sets.
- Use of clear, documented Organization Strategy Sets.
- Analysts make inferences from Organization Strategy set to develop MIS Strategy Set.

VI. CONCLUSIONS

In the past decade, organizations have increased their investments in MIS significantly with the expectation that these investments will improve organization performance. However, some organizations continue to be able to garner better value from MIS than others. This has created a need to better understand the sources of such differences and, consequently, the mechanisms by which MIS contributes to organization performance. This research is one attempt to answer this question. We drew from the resource-based theory to posit that intangible MIS resources, MIS competencies, and MIS strategies are critical determinants of how IT is deployed in the organization, which in turn can affect organization performance.

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