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Factors Affecting Successful Adoption of Management Information Systems in Organizations towards Enhancing Organizational Performance

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Abstract Management information systems one of the most important achievements in the area of administrative work, which aims to provide reliable, accurate, relevant and complete information to managers toward enhancing of organizational performance in organizations. This paper reviews other researches in the area of MIS adoption in organizations. Synthesizing from the literature and interviews with some of the employees of telecommunications companies in Yemen, this paper proposes a theoretical framework that takes into consideration the technological, organizational and people dimensions that might affect MIS adoption in organizations.

Keywords: *MIS, successful adoption, technological factor, organizational factor, people factor, organizational performance*

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1. Introduction

A great number of organizations could not operate properly and successfully without the implementation of MIS. Management information systems make it possible for organizations to get the right information to the right people at the right time in the right form by enhancing the interaction between the organization's people. Management information systems play a key role in the life of organizations; it provides the appropriate information in right time as needed to support the management activities [1]. In addition MIS allows information to move between departments instantly, reducing the need for face-to-face communications among employees, thus increasing the responsiveness of the organization [2]. Management information system one of the most important tools in any organization, which aims to provide reliable, complete, accessible, and understandable information in a timely manner to the users of the system [3].

In other hand, assessing the success of information systems has been identified as one of the most critical issues in IS field. Several conceptual and empirical studies have been conducted to explore this confusing yet important issue. A huge debate continues concerning the appropriate set of variables that can be used to determine the users' perception of IS success [4]. According to Petter et al [5] the successful adoption of technologies in companies are much depending on technology characteristics, project and organizational characteristics, user and social characteristics, and task characteristics. However in reality these factors are much neglected by organizations especially among small companies.

Based on preliminary interviews with some of the employees of telecommunications companies in Yemen, the main problem hinder the successful adoption of MIS in telecommunication companies are system quality, information quality, service quality, top management support, end-user training, technology self-efficacy, and user experience. From the issues mentioned earlier, this study will empirically examine the impact of these on perceived usefulness and user satisfaction toward impact on organizational performance. This study attempts to focus deeply on the characteristics that lead to successful adoption of MIS in organizations, and to investigate the effect of MIS in organizational performance.

2. Definition of MIS and Organizational Performance

Management information systems is type of information systems that take internal data from the system and summarized it to meaningful and useful forms as management reports to use it in managerial decision making and management activities [6]. Management information systems basically concerned with the process of collecting, processing, storing and transmitting relevant information to support the management operations in any organizations [7].

Organizational performance is defined as accumulated end results of all the organization's work processes and activities. The common measures for organizational

performance are organizational productivity and organizational effectiveness. Organizational productivity is a measure of how efficiently employees do their work.

Organizational effectiveness is measure of how appropriate organizational goals are and how well an organization is achieving those goals [8].

3. Benefits of MIS in Organizations

According to Nath & Badgujar [2] management information system provides several benefits to the business organization: to come out with appropriate responses to a business situation; the means of effective and efficient coordination between different departments at all the levels of the organization; access to relevant data and documents; use of less labor; improvement in organizational and departmental techniques; management of day-to day activities.

In addition Al-Hameedi, et al. [9] various management levels as needed in order to exercise its functions in planning, organizing, directing, control and decision-making, etc.

- Information retrieval easily.
- Evaluation of an organization's activities and evaluate the results in order to correct deviations.
- Create the appropriate conditions for effective decision-making appropriate information processing and briefly in a timely manner.
- To help predict the future of the organization and prospects with a view to making the necessary precautions in the event of a defect in achieving the goals.
- The ability to take advantage of the system by issuing reports whether aggregate or detailed (current or monthly, quarterly or annually) on the activities of the organization.
- Remember the historical information and necessary, which is the basis of its work.
- Respond to the inquiries.

4. Factors Affecting on MIS Adoption in Organizations

4.1. Technological Factors

In technological dimension, three variables are suggested: system quality, information quality, and service quality.

The quality of the system and quality of the information are considered as a key factors affecting IS acceptance and improve the organizational performance [10].

System quality is the desirable characteristics of information system. For example: ease of use, system flexibility, system reliability, and ease of learning, as well as system features of intuitiveness, sophistication, flexibility, and response times [11]. The proposed theoretical framework assumed that MIS quality effect on the perceived usefulness and user satisfaction. These hypotheses also supported by other researchers like:

Hwang, et al. [12] supported that system quality had a strong direct effect on perceived usefulness. In addition Park, et al. [13] supported that system quality has a positive influence on perceived usefulness.

Moreover Halawi, et al. [14] supported that there is a positive relationship between system quality and user satisfaction. In addition Ainin, et al. [15] supported that system quality will have a significant, positive relationship with user satisfaction level.

Based on previous researches which showed the influence of system quality on perceived usefulness and user satisfaction the hypotheses are stated as follows:

H1a: There is positive relationship between MIS quality and perceived usefulness.

H1b: There is positive relationship between MIS quality and user satisfaction.

According to Petter et al. [11] information quality is the desirable characteristics of the system outputs. For example: relevance, understandability, accuracy, conciseness, completeness, understandability, currency, timeliness, and usability. The proposed theoretical framework assumed that information quality effect on the perceived usefulness and user satisfaction. These hypotheses also supported by other researchers like:

Hwang, et al. [12] supported that increases in information quality will cause increases in perceived usefulness. in addition Park, et al. [13] supported that information quality has a positive influence on perceived usefulness.

Moreover Petter & McLean [16] supported that there is a significant positive relationship between information quality and user satisfaction. In addition Lee & Yu [17] supported that information quality will positively affect user satisfaction.

Based on previous researches which showed the influence of information quality on perceived usefulness and user satisfaction the hypotheses are stated as follows:

H2a: There is positive relationship between information quality and perceived usefulness

H2b: There is positive relationship between information quality and user satisfaction.

According to Petter et al. [11] service quality is the quality of the support that system users receive from the IS department and IT support personnel. For example: responsiveness, accuracy, reliability, technical competence, and empathy of the personnel staff. The proposed theoretical framework assumed that service quality effect on the perceived usefulness and user satisfaction. These hypotheses also supported by other researchers like:

Cheng [18] supported that service quality will positively affect on perceived usefulness. In addition Hwang, et al. [12] supported that increases in service quality will cause increases in perceived usefulness.

Moreover Petter & Fruhling [19] supported that service quality positively impacts on user satisfaction. In addition Lin & Lee [20] supported that service quality has a positive influence on user satisfaction.

Based on previous researches which showed the influence of service quality on perceived usefulness and user satisfaction the hypotheses are stated as follows:

H3a: There is positive relationship between service quality and perceived usefulness.

H3b: There is positive relationship between service quality and user satisfaction.

4.2. Organizational Factors

In organizational dimension, two variables are suggested: top management support, and end-user training.

Management support refers to the perceived level of general support offered by top management in small firms. For example: management is aware of the benefits that can be achieved with the use of system, management always supports and encourages the use of system for job-related work, management provides most of the necessary help and resources to enable people to use system, management is really keen to see that people are happy with using system, management provides good access to hardware resources when people need them, and management provides good access to various types of software when people need them [21].

The proposed theoretical framework assumed that top management support effect on the perceived usefulness and user satisfaction. These hypotheses also supported by other researchers like:

Chen & Hsiao [22] supported that top management support positively influences perceived usefulness. In addition Shih & Huang [23] supported that top management support strongly, directly and positively affects perceived usefulness.

Moreover Cho, V. [24] supported that top management support positively affects user satisfaction. In addition Urbach et al. [25] supported that top management support has a significant impact on user satisfaction.

Based on previous researches which showed the influence of top management support on perceived usefulness and user satisfaction the hypotheses are stated as follows:

H4a: There is positive relationship between top management support and perceived usefulness.

H4b: There is positive relationship between top management support and user satisfaction.

According to Igbaria, et al. [21] user training refers to the amount of training provided by computer specialists in the company, friends, consultants, or educational institutions external to the company. For example training to use Operation systems, Spreadsheets, Word processing, and application packages.

The proposed theoretical framework assumed that end-user training effect on the perceived usefulness and user satisfaction. These hypotheses also supported by other researchers like:

Rouibah et al. [26] also Igbaria et al. [27] supported that training has a direct effect on perceived usefulness.

Moreover Bradford & Florin [28] also Dezdar & Ainin [29] supported that training are positively related to user satisfaction.

Based on previous researches which showed the influence of end-user training on perceived usefulness and user satisfaction the hypotheses are stated as follows:

H5a: There is positive relationship between end-user training and perceived usefulness.

H5b: There is positive relationship between end-user training and user satisfaction.

4.3. People Factors

In people dimension, two variables are suggested: computer self-efficacy, and user experience.

Computer self-efficacy refers to an individual's belief that he or she has the skills and abilities to accomplish a specific task successfully [30]. Self-efficacy is measured using items such as: I can understand how the system work, and I am confident that I can learn how to use the system [31]. The proposed theoretical framework assumed that computer self-efficacy effect on the perceived usefulness and user satisfaction. These hypotheses also supported by other researchers like:

Ramayah & Aafaqi [32] supported that Self-efficacy will positively influence perceived usefulness. In addition Lopez & Manson [33] supported that self-efficacy will be positively related to perceived usefulness.

Moreover Saba [34] supported that self-efficacy will be positively related to satisfaction. In addition Bin, et al. [35] supported that user self-efficacy has an effect on user satisfaction

Based on previous researches which showed the influence of computer self-efficacy on perceived usefulness and user satisfaction the hypotheses are stated as follows:

H6a: There is positive relationship between computer self-efficacy and perceived usefulness.

H6b: There is positive relationship between computer self-efficacy and user satisfaction.

According to Chuttur, M. [36] Experience is prior experience of an individual with a specific technology. According to Igbaria & Iivari [31] experience is measured by using items such as: I have experience in using the systems, I have experience in using spreadsheet, I have experience in using word processing, I participation in feasibility studies, I participation in requirements analysis, I have experience in using financial modeling, I have experience in using programming languages, and I participation in design of computerized information systems. The proposed theoretical framework assumed that user experience effect on the perceived usefulness and user satisfaction. These hypotheses also supported by other researchers like:

Kim [37] supported that experiences had a positive effect on perceived usefulness. In addition Igbaria & Iivari [31] supported that computer experience will have a positive direct effect on perceived usefulness.

Moreover Zviran et al. [38] supported that there is a relationship between computer experience and user satisfaction.

Based on previous researches which showed the influence of user experience on perceived usefulness and user satisfaction the hypotheses are stated as follows:

H7a: There is positive relationship between user experience and perceived usefulness.

H7b: There is positive relationship between user experience and user satisfaction.

5. Effect of Perceived Usefulness and User Satisfaction on Organizational Performance

Perceived usefulness is defined as the degree to which a person believes that using the new technology will enhance their task performance [39]. According to Davis [40] perceived usefulness is measured by using items such as: using the system in my job enables me to accomplish tasks more quickly, using the system improves my job performance, using the system in my job increases my productivity, using the system enhance my effectiveness on the job, using the system makes it easier to do my job, and overall, I find the system useful to my job. The proposed theoretical framework assumed that perceived

usefulness effect on the user satisfaction and organizational performance. These hypotheses also supported by other researchers like:

Landrum et al. [41] supported that usefulness is positively correlated with user satisfaction. In addition Hwang, et al. [12] supported that perceived usefulness had a strong direct effect on user satisfaction.

Moreover Park, et al. [13] supported that perceived usefulness has a positive influence on organizational benefit.

Based on previous researches which showed the influence of perceived usefulness on user satisfaction and organizational performance the hypotheses are stated as follows:

H8a: There is positive relationship between Perceived usefulness and User Satisfaction.

H8b: There is positive relationship between Perceived Usefulness and organizational performance.

According to Petter, et al. [5] user satisfaction is users' level of satisfaction with the IS. According to Halawi, et al. [14] user satisfaction refers to the recipient response to the use of the output of IS. User satisfaction is measured by using items such as: the system meets my needs, satisfied with the system efficiency, satisfied with the system effectiveness, and overall, I satisfied with the system [42]. The proposed theoretical framework assumed that user satisfaction effect on organizational performance. These hypothesis also supported by other researchers like:

Su, et al. [43] supported that user satisfaction have positive effects on the organization net benefits. In addition Park, et al. [13] supported that user satisfaction has a positive influence on organizational benefit.

Based on previous researches which showed the influence of user satisfaction on organizational [44] performance the hypothesis are stated as follows:

H9: There is positive relationship between user satisfaction and organizational performance.

Finally, organizational performance is measured by using items such as : productivity, efficiency, profitability, market value, competitive advantage, cost reduction, revenue enhancement, and overall firm performance [44].

6. Proposed Theoretical Framework

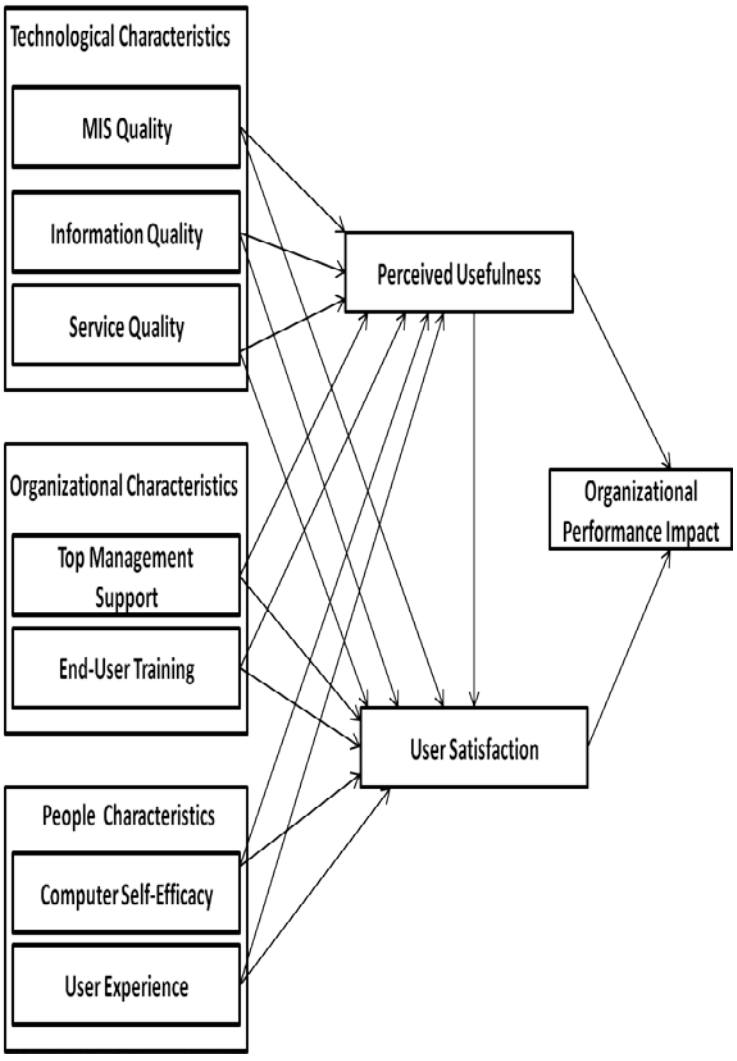

Figure 1. Proposed theoretical framework

7. Conclusion

The authors advocates that, the organizations must understand the factors that affect successful adoption of MIS toward enhancing the organizational performance. A theoretical framework is proposed for the development of hypotheses based on seven factors. Those factors are categorized into three categories which are technological factors, organizational factors and people factors. Where the implementation of this model in organization will effect on perceived usefulness and user satisfaction toward enhancing the organizational performance. The constructs

have been defined based on the scope of the research. The subsequent phase of this study will be the empirical testing of the research model.

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