

Inspirations of Management Information Systems towards Decision–Making, Collaboration, Communication, and Enhancing the Status of Healthcare: for Entities of Various Levels

Yasin M. Karfaa*, Salman Yussof*, Mohd Ezanee Bin Rusli*

* College of Information Technology, Universiti Tenaga Nasional

Abstract- This article includes a review of three published articles on the issue of the prospects of the use of Management Information Systems (MIS) and Information Technology (IT); the three articles span the topics of MIS, corporate decision–making, social media–the new paradigm of collaboration and communication for business environment, Tele-health and enhancing the status of healthcare in Yemen. The first and second articles have been reviewed while referring to other scholars’ published works to support the authors’ argument, whilst the third article has been reviewed based on an anecdotal evident for arguments.

Index Terms- Information Systems, Decision, Social, Communication, Health-care

I. INTRODUCTION

The article1 [1] with the title: ‘Management Information Systems and Corporate Decision–Making: A Literature Review’, emphasizes the importance of an effective and efficient Management Information System (MIS), as the major determinant of success of an organization. The authors reflected on the function of MIS in data processing, providing immediate access to information, and allowing quality decision making. The efficient functioning of an organization is largely dependent on the design of the MIS which is capable of providing information to the managers as and when they need it. In brief, the MIS provides accurate information to enable the organization to plan and operate efficiently to pursue its objectives.

The article2 [2] with the title: ‘Social Media –The New Paradigm of Collaboration and Communication for Business Environment’, is introduced by emphasizing that the application of social media for virtual communication and collaboration has influenced business practices by expanding networks between employees and partners in the business environment. The rapid rate by which social media has revolutionized the business world has certain social benefits. First, social media enables individuals to transfer knowledge and delegate tasks without physical proximity. Second, the direct and indirect use of social media positively increases the sale of products and services. Third, social media as an intellectual resource for a knowledge-based economy allows businesses to inform consumers about their products and services and receive feedback [2].

Alternatively, social media has negative social, ethical and security implications. Socializing networks adversely affects human behaviors such as the inability to: (a) separate personal and professional life, (b) concentrate, analyze and reflect on information provided electronically, (c) interact face-to-face with other individuals, and (d) appropriately express feelings and opinions. Social media also encourages unethical and fraudulent behaviors such as plagiarism, piracy, identity theft and hacking of private information.

The article3 [3] with the title: ‘Tele-health in Yemen: An Overview and a Proposed Model’, and with the notion: ‘Enhancing the Status of Healthcare in Yemen: Way Forward in Realizing the Outcomes of the National Dialogue Conference Adopting Tele-Health’, which is reviewed here based on an (anecdotal evident), starts with an abstract that shows an optimistic attempt by the scholars regarding the efforts to increase the presence of IT in the endeavors to improve health-care in Yemen. So, the brief is fine, with some missing accuracy in English language (i.e., in punctuation) [3].

The author stated that: ‘Yemen is still among the countries that suffer a lot of health problems and diseases’; this statement is imprecise; simply, Yemen is suffering more of the health-care’s shortage or hardship.

There are two notes to mention:

(1) There are many diseases in Yemen, and high percentage of the population is suffering of them, but, the severity is not only here; the biggest problem is that the health-care is hardly available except in big cities; furthermore, the patients have to pay for everything from A to Z, which is a heavy burden on the public in a poor country. That was practically experienced as the reviewer went through living in Yemen for one year.

(2) There are tens of thousands of Yemeni individuals who are traveling to Jordan to seek health-care centers; some of them stay for several weeks; some for several months; some even stay for one or two years in Jordan for Hospital's services.

Upon asking some of Yemeni individuals who were available in Jordan to seek healthcare services, they answered: 'In Yemen there is nothing'. Again, that was practically experienced, as the reviewer was having two vacations in Jordan, from December 2013 till February 2014, and was staying in the same hotel which was full of Yemeni families seeking Health-care services in Jordan. Hence, it seems that, in their article, the authors of article3 are not unveiling the real situation in Yemen.

II. CONTEXT, RELEVANCE AND APPLICABILITY

In article1, the ideas presented by the authors in support of MIS and corporate decision making are supported by other current research. According to Reddy, Srinivasu, and Rao, V.S., (2009), MIS benefits business organizations by providing quick access to information to improve daily activities and contact outside the organization. MIS is a time saving device that can assimilate and process large amounts of data to allow managers to solve problems and make routine decisions based on human and material resources.

The MIS of an organization is very complex and involves a series of transactional processes, technologies, procedures and best practices. The effectiveness and efficiency of an organization are improved by MIS as a support system to increase the organization's performance (Brandas, 2011). A study by Perez-Mendez and Machado-Cabezas, (2015) found that Spanish companies' use of MIS has positive effects on their profitability. The authors conclude that there is a significant correlation between applying MIS and improvement in the company's performance. However, there are factors that limit the generalizability of this study such as the use of a small sample size of a few Spanish companies, variables that are not included in the questionnaire and the investigation period which was done prior to the present economic crisis.

MIS also differs from other information systems because its primary objective is to analyze operational activities in the organization. Undoubtedly, MIS is a crucial tool in providing options to decision makers because it is tailored to support human decision making [7]. The authors emphasized that MIS ensures positive outcomes and guarantees business profitability because it can process data accurately.

In article2, the successful application of social media in business organizations is further supported by research done in emerging markets of Asia, Australia, Europe and United States. China as an advanced market economy introduced social media in both local and international corporations as a platform to engage Chinese consumers [8]. Small businesses in the United States employed the use of Facebook, Twitter, LinkedIn, and YouTube to increase their revenue by reaching millions of internet users [9]. Such websites are easy to set up and modified and therefore favored by small businesses.

In Australia, Twitter is extensively used as a commercial tool in public-listed companies and financial industries [10]. Social media is also widely accepted in the European Union by small and large enterprises for internal and external communication, knowledge sharing and recruitment of employees [11]. Airports in the United States uses social media to engage customers, promote their airline partners, and enhance concession revenue through airport blogs [12].

The purpose of the paper by Georgescu and Popescul, (2013) is to discuss the impact of social media in business and how it has caused a paradigm shift in how businesses operate in a virtual world. The authors support for social media is relevant to the present environment of technological advancement in social and economic life. Social networking sites are abundant, and easily accessible by internet users. As such, social network has become a key element for success of a business that no longer requires physical proximity and personal relationships with customers. The ability of the business company to positively influence the consumer is largely dependent on how it builds a social network platform that engages the consumer with a choice of products and services and providing useful feedback to increase its profits.

In article3, the authors did not mention that the charges in hospitals are highly exaggerated compared to the ability of patients to pay for the health-services when they are found, as was practically witnessed by the reviewer.

Referring to an outsider's reference such as the CIA fact-book simply means that the authors did not use or did not access or did not find any local Yemeni reference for some basic INFO about Yemen, such as population grow and distribution, in terms of health-care, (Population health indicators), etc. Anyhow, this point is not a stopping point.

The authors mentioned about the expansion of the current and new health-care centers, but, the authors did not mention the genuine question:

Are these centers affordable by the majority of the Yemeni people?

The statistical information that was mentioned in the paper are very useful regarding the available infrastructure (Human, Buildings, Beds, Equipment, and so on), but it cannot contain any answer regarding the question:

Who is making use of these services? (i.e., which class of people in Yemen can afford to make use of those services?).

According the reviewer's information, only rich people in Yemen are using these services. Those are two categories: local business people, and those who work in other neighboring Gulf Countries, then they send their money to Yemen.

- A. The national information center
- B. Communications and Information Technology
- C. The development of rural communications
- D. E-government and Information worker

All these IT infrastructures that were either established recently or they are on the way to be established are highlighted properly in the article3.

These Tele-health centers are to be established in developing countries gradually; Yemen is included in this plan as one of the growing countries. Having to utilize this service requires a strong and efficient IT infrastructure in the country (Which is not maturely available in Yemen), besides the cost of operation of such system, which is not affordable whether by the public in Yemen or the country's government's budget. It is a sweet dream to have Tele-health centers in Yemen, but, if it will be set, it will be useful for highly rich people only, based on what is known about level of life, cost of living, and the average income of the Yemenis.

III. CRITICAL EVALUATION

From article1, it becomes obvious that MIS has a viable impact on current global market economy. However, the organization's reliance on MIS has certain repercussions. First, although managers at all levels need precise data and information to make decisions, the decision at the supervisory level is different from the top level. The DSS (Decision Support System) is more suitable for decisions to meet specific individual or group needs. Second, implementation of the MIS requires costs for training employees, and payment for consultants and licenses. Third, MIS saves time but at the expense of limited face-to-face communication. Lastly, MIS as a form of technology leads to the elimination of jobs when computers can replace human employees [6].

From article2, it seems clearly that 'Social Media' attracts consumers and has undergone development over a period of time. Many social media networks are available for users to connect, share and socialize. The power of advertising on social media is remarkable and perfect for business organizations. This paper provides justification for business organizations to include social media in their business model because it is user friendly and easily available to consumers. E-commerce integrated with social media plays a significant role in boosting on-line business sales. As an example, 20 percent of Chinese consumers use social media to purchase products totaling \$420 billion in 2012.

However, social media is a relatively new concept that is developing among digital consumers. Most companies find building an effective social media strategy as a big challenge. The success of attracting digital consumers depends on trial and error of identifying the right social media platforms. Business enterprises should embrace social media to benefit consumers by building a solid branding foundation for better products and services. The benefits of social media in a competitive business world should be balanced with its serious consequences to avoid social media becoming a platform to deceive consumers with fraudulent practices.

In article3, the authors pointed to the important hurdles against utilizing such health-care services in Yemen, but the authors focused on the rural areas. In fact, these services are difficult to get for the whole of Yemen except in the capital city, as was practically witnessed by the reviewer. In the reviewer's opinion, the authors are having some limitations regarding what to go through, or shortage of information based on shortage of resources. Not showing the full picture about the true situation of the healthcare status (From the points of view of both of the availability and affordability), limits the advantages of the study.

IV. CONCLUSION

In article1, as a conclusion, it is highlighting MIS as a crucial tool in the current precarious business environment. The MIS is required if businesses are to prosper and successfully compete in the uncertain global economy. This paper definitely supports an extensive application of MIS as best practice for an organization. Despite some shortcomings of the MIS, this support is justifiable. Managers at all levels of the organizational hierarchy need precise and accurate data and information to make decisions. This article definitely stressed the relevance of MIS as a problem solving tool for managers to advance the performance of an organization. Furthermore, the used arguments when reviewing article1 are based on quoted parts out of some published research articles found in the literature.

In article2, as a conclusion, it is focusing on the positive impact of social media application in business but lacks discussion on using social media effectively in the business environment. A more in-depth and thorough discussion of the negative consequences of using social media for business purposes would strengthen the argument in this paper so that a more balanced and critical perspective of social media is provided to the reader. Moreover, selected quoted parts out of some published research articles found in the literature are used to support the arguments when reviewing article2.

In article3, as a conclusion, there is again an exaggerating assumption, when having the ambition of providing some advanced health-care services to some class of the population in a country where the majority of the percentage of the population is not having the basic health-care services, but not the advanced health-care services. Anyhow, reviewing article3 is done solely based on anecdotal evident, as the author lived in that country for one year, and witnessed what contrasts the ideas that came in the article regarding the status of healthcare services in Yemen and affordability of the majority of the population there.

In summary, the application of Management Information Systems is important for any organization to thrive in the ever changing landscape of the knowledge-based economy; some of the examples include supporting decisions making, and enabling social networks to play vital roles in the success of businesses. In other words, in today's competitive world, the functions of the Management

Information Systems are no longer limited to providing information on consumer products but extend to providing assistance and improvement for even health care services in developing countries. Management Information Systems have definitely revolutionized the dissemination of information in every aspect of human lives. The authors are optimistic that the role of Management Information Systems will increase in the future due to the positive benefits of its utilization.

REFERENCES

- [1] Odinioha, G.J.M. & Chukwuna, O.L., "Management Information Systems and Corporate Decision- Making: A Literature Review", the International Journal of Management, vol. 2, is. 3, 2013, pp. 78-82. ISSN: 2277-5846, (www.theijm.com).
- [2] Georgescu, M., & Popescula, D., "Social Media – The New Paradigm of Collaboration and Communication for Business Environment", Proceedings of 7th International Conference on Globalization and Higher Education in Economics and Business Administration, GEBA 2013, Procedia Economics and Finance 20, 2015, pp. 277–282, available online at www.sciencedirect.com, (http://creativecommons.org/licenses/by-nc-nd/4.0/), doi: 10.1016/S2212-5671(15)00075-1, ScienceDirect, 2212-5671 © 2015 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license.
- [3] Al-Fadhli, A.A., Othman, M., Rashed, A., & Ramasamy, A., "Telehealth in Yemen: An Overview and a Proposed Model", Proceedings of the 5th International Conference on Computing and Informatics, (ICOCI 2015, Istanbul, Turkey), 2015, pp. 121-126.
- [4] Reddy, G.S., Srinivasu, R., Rikulla, S.R., & Rao, V.S., "Management Information System to Help Managers for Providing Decision Making in an Organization", International Journal of Reviews in Computing, 2009, pp. 1-6.
- [5] Brandas, C., "A Taxonomy of Support Systems for Corporate Governance", Annuals of DAAAM for 2011 & Proceedings of the 22nd International DAAAM Symposium, Vienna:Austria, vol. 1, no. 22, 2011, .
- [6] Perez-Mendez, J.A, & Machado-Cabezas,A., "Relationship between Management Information Systems and Corporate Performance", Spanish Accounting Review, vol. 1, no. 18, 2015, pp. 32-43.
- [7] Ranisavljevic, P, Spasic, T., & Maldenovic-Ranisavljevic, I., "Management Information System and Decision Making Process in Enterprise", Economics Management Information Technology, vol. 1, no. 3, 2012, pp. 184-188.
- [8] He, X., & Pedraza-Jimenez, R., "Chinese Social Media Strategies: Communication Key Features from a Business Perspective", El Profesional de la Informacion, vol. 24, no. 2, 2015, pp. 200-209.
- [9] Boling, R., Burns, M., & Dick, G., "Social Networking and Small Business: An Exploratory Study", Contemporary Readings in Law and Social Justice, vol. 6, no. 2, 2014, pp. 122-129.
- [10] Xiong, F., & Mackenzie, K., "The Business Use of Twitter by Australian Listed Companies", The Journal of Developing Areas, vol. 49, no. 6, 2015, pp. 421-428.
- [11] Verheyden, M., & K., Goeman, "Does (company) size matter? Differences in social media usage for social purposes", Journal of Applied Quantitative Methods, vol. 8, no. 4, 2013, pp. 3-16.
- [12] VanAuken, K., "Using Social Media to Improve Customer Engagement and Promote Products and Services", Airport Management, vol. 9, no. 2 , 2014, pp. 109-117.
- [13] Georgescu, M., and Popescul, D., "Social Media – the New Paradigm of Collaboration and Communication for Business Environment", Proceedings, 7th International Conference on Globalization and Higher Education in Economics and Business Administration, (GEBA 2013), Procedia Economics and Finance, no. 20, 2015, pp. 277–282. Available online at www.sciencedirect.com, ScienceDirect.

AUTHORS

First Author – Yasin Mansur Karfaa, PhD of Electrical Engineering, Student, Master of Information Technology, yasin_m_k@yahoo.com.

Second Author – Salman Yussof, PhD of Information Technology, Universiti Tenaga Nasional, salman@uniten.edu.my

Third Author – Mohd Ezanee Bin Rusli, PhD of Information Technology, Universiti Tenaga Nasional, ezanee@uniten.edu.my

Correspondence Author – Yasin Mansur Karfaa, yasin_m_k@yahoo.com, dr.yasin22@gmail.com, Mobile: 019-2038014.