Contents lists available at Science-Gate

International Journal of Advanced and Applied Sciences

Journal homepage: http://www.science-gate.com/IJAAS.html

The social impacts of ERP implementation on employees and work environments in higher education institutions

Abdulfattah Omar *

Department of English, College of Science and Humanities, Prince Sattam Bin Abdulaziz University, Al-Kharj, Saudi Arabia

ABSTRACT

Numerous studies have been concerned with investigating the key success factors (KSFs) of implementing ERP systems. Very little has been done. However, on the social impacts of technological innovations and, more particularly, ERP implementation processes on employees and work environment. As this, this study seeks to understand the impact of implementing ERP systems on the work environment and employees' careers with a focus on Higher Education institutions in Saudi Arabia. The study is based on a quantitative and qualitative analysis of data collected from the survey, interview, and organizational documents. Results indicate that employees' negative perceptions of the impact of the implementation of the ERP system on their social life and work environment have a close relationship to their satisfaction with the new system. For the successful implementation of the new system, this study suggests that employees' concerns and problems should be considered. This can be done by means of more employee involvement and effective training. ERP researchers and designers are finally recommended to find solutions that are more tailored to the needs and convenience of the employees and the workforce. Organizations and institutions are also recommended to create a proper working environment prior to and during the ERP implementation processes. Although the study is limited to the Saudi Higher Education institutions, the findings can be extended to the other departments and Ministries.

1. Introduction

This study addresses the issue of the management of technological innovations and the social impacts of these changes on work environments and employees with a focus on higher education institutions in Saudi Arabia. It focuses on how technological innovations and changes and, more particularly, the implementation of Enterprise Resource Planning (ERP) are important for organizational performance and the impact of the changes that result from the ERP implementation on employees and staff. The rationale is that the global business poses numerous pressures on organizations that have to update their policies and practices in order to survive (Denison et al., 2012; Martin et al., 2012). One major pressure is

technological changes, including IT. The management of these changes has to be carried out in an appropriate way so that these innovations have no negative impacts on organizational performance (Chmiel et al., 2017). The hypothesis is that if technological changes and innovations are important for the competitiveness and even survival of organizations, human capital remains one of the most important assets for organizations and one of the most significant factors for firms' success and growth (Davies and Hobday, 2005; Shavinina, 2013; Zhou, 2015). Furthermore, in the introduction of technological innovations, user/employee satisfaction is among the main factors and good predictors of ERP implementation success. Therefore, technological innovations have to be well managed, so that workforce competencies are well used (Daniel et al., 2019; Hasenfeld, 2010; Salas et al., 2008).

As thus, this study investigates the social impacts of introducing and carrying out technological innovations and changes and, more particularly, the ERP implementation on the workforce in organizations and how these innovations and

changes could well be managed in order to ensure the successful implementation of change initiatives. The study is based on exploring the social implications of the ERP systems in the Higher Education institutions in the Kingdom of Saudi Arabia.

Given the developments in the world of information technology and electronic services, different Saudi universities have tended to integrate ERP systems into their processes over the last ten years due to the urgent need for speed and ease in completing transactions (Aldayel et al., 2011; Noaman and Ahmed, 2015; Omar and Alqahtani, 2018). Examples can be seen in Madar at King Saud University and Mawared in Prince Sattam Bin Abdulaziz University that are considered integrated information platforms that provide services for all students, employees, faculty members, and shareholders easily and effectively. In spite of the potentials of these systems in helping achieve institutions' long term and strategic plans as well as improving performance, almost all the attention is given to the technical issues with no consideration of the social aspects of implementing these systems. In light of this argument, the present study asks the following research questions. First, what is the impact of carrying out technological innovations and the ERP implementation on human resources and organizational performance with reference to the Higher Education institutions in the Kingdom of Saudi Arabia? Second, what are the social implications of the introduction of the ERP systems to the work environment and employees' personal lives? And finally, how can technological changes and innovations be managed so that implementation processes are successful?

2. Literature review

Numerous studies indicate clearly that the adoption of technological innovations results in numerous advantages and benefits for organizations such as reducing costs, improving customer service, and shortening cycle times that help in maintaining competitiveness or even having a competitive advantage over their rivals (Choi and Chang, 2009; Cummings and Worley, 2014; Shavinina, 2013; Zhou, 2015). The current trends in the modern world are dominated by technology. Organizational growth and survival are now greatly determined by the organization's ability to keep up with technological advancements (Cummings and Worley, 2014; Schein and Schein, 2016). For effective management practices, organizations have tended to adopt different technological innovations in running their operations and processes. Ghosh and Skibniewski (2010) indicated that "Enterprise Resource Planning (ERP) systems are among the most important business information technologies that emerged during the last decade". ERP emerged in the late 1980s and early 1990s out of the necessity for creating new systems that integrate all the functions of an organization together in order to be able to

deal with the highly competitive business environment and the increasingly rapid advancements in IT systems. O'Leary (2000) defined ERP systems as "powerful software packages that enable businesses to integrate a variety of disparate functions." Monk and Wagner (2013) agreed that ERP systems are "core software programs used by companies to integrate and coordinate information in every area of the business". ERP implementation is useful for businesses and organizations in many ways as it helps organizations and businesses manage more effectively company-wide business processes. Monk and Wagner (2013) explained that "ERP software supports the efficient operation of business processes by integrating tasks related to sales, marketing, manufacturing, logistics, accounting, and staffing- through a business". It is, therefore, argued that ERP implementation has numerous advantages for businesses and organizations. Ferran and Salim (2008) indicated that ERP implementation is closely associated with improving and increasing productivity levels, decreasing costs, and increasing efficiency. O'Leary (2000) added that ERP implementation enables businesses and organizations to make realistic estimates of given situations and thus more effective forecasts. It is considered as one of the effective solutions for organizations to survive in the face of the increased pressures. In spite of its importance, ERP implementation is a complex social interaction between IT departments and organization top leadership on one side and employees and staff on the other side (Griffith et al., 1999; Wang et al., 2008). It is also a very complicated process that needs high coordination between all organization staff (O'Sullivan and Caiola, 2014).

In this context, it can be argued that the ERP implementation is even critical for complex organizations including universities due to the complexity and interacting nature of their products, marketing, systems, networks, constructs, and operations (Davies and Hobday, 2005; Hobday, 2000; Morris, 2013). In such organizations, most or all of the functions of the firm are carried out within projects which are considered primary units for production, innovation, and competition (Hobday, 2000; Strodtbeck, 2016).

The implication here is that the unique nature of complex organizations as well as the increasing technological and market needs and challenges they are facing today make it important for firms and organizations of the kind to have a culture of change and innovation and to implement ERP systems in order to run the projects and systems more effectively. The complexity, length, and expense of these projects make it important to ensure that all the parts, components, units, subassemblies, subsystems, and systems work together as a whole. In other words, complex organizations are generally composed of different disparate units that require integration so that operations are carried out effectively. Furthermore, the ever-increasing competition in today's global economy makes it

necessary for businesses to have systems that work synchronously. In the case of the delivery of complex projects, collaboration, and coordination across the different kinds of firms, including owners, delivery clients, consultants, contractors, and the supply chain, are required. There is a need to synthesize knowledge across their different professional expertise, roles, and responsibilities to integrate elements. In other words, there is a need to link the disparate pieces of the project into a seamless whole. These can be done through the implementation of ERP systems that can integrate information and data from all the organization's different and numerous departments in a smooth and functioning way. ERP systems, Barker and Frolick (2003) argued, tend to integrate all business activities through improved relationships at all levels to achieve a competitive advantage. In this way, ERP implementation lies in the heart of the innovation and change processes, which are vital for the growth and survival of organizations. It is useful for complex organizations in many ways. Fontana and Neto (2009) argued that the ERP implementation, considered as a great organizational change, in complex organizations helps in addressing problems related to product uncertainty, responding to technological and market needs, increasing customer confidence, providing growth opportunities for the firm/organization, capturing more added values, linking market demand and use.

In spite of its importance in the management of organizations today, ERP implementation is of very high costs, and unfortunately, most of the ERP implementation projects fail. For the successful implementation of ERP systems, some CSFs need to be considered. One main factor is the selection of the appropriate ERP system/software. The idea is that an ERP system is a suite of integrated applications that enable organizations to integrate its different processes and operations. This is usually very expensive and too complicated to be managed. That is why; an organization should select the ERP software that functions well (Wang et al., 2008). There are numerous ERP packages for organizations to choose from. These include Microsoft, Oracle, Netsuite, Adonix, and SAGE. Whatever the package an organization chooses, this must be frequently updated in order "to improve the fit between business and system" (Wang et al., 2008). Second, the ERP team should have the technological and administrative competence to deal with different problems and making other employees motivated to use and be familiar with the new system. They should also have a clear understanding that failure to implement the ERP system results in disasters and can lead businesses to bankruptcy. ERP team and managers also need to realize that ERP implementation is a very complicated process and that about 90% of the ERP implementation projects fail. Therefore, cooperation and coordination between all organization departments are critical for the success of ERP implementation. Here comes the important role of the top management in providing

the support for the ERP team on one side and creating an appropriate work environment so that all the employees and staff are committed to the new system.

There are so many examples where failure to implement ERP systems led to big losses and caused drastic crises for organizations. In their analysis of the failures of the ERP implementation processes, Fruhlinger et al. (2017) listed 15 famous business disasters that resulted from the unsuccessful implementation of ERP systems. They gave examples of how the failure to implement the ERP systems appropriately in firms such as Vodafone, Hershey, and HP led to serious problems for these businesses. In the case of Vodafone, for instance, the company consolidated its Customer Relationship Management (CRM) onto a Siebel platform. Although it is considered by many as the world's most complete CRM solution, the result of the implementation was that Vodafone ran into serious problems. Unexpectedly, not all customer accounts were migrated properly. One problem was that customers' accounts weren't properly credited for payments made. As a result, UK telecoms regulator Ofcom slapped a £4.6 million fine on Vodafone, which is considered, according to Lauchlan (2016), the single biggest fine for "serious and sustained" breaches of consumer protection rules in the UK. Even worse, a failed ERP project cost Nike $100 million in lost sales, a 20 percent stock dip, and a collection of class-action lawsuits in 2000. In this way, Fruhlinger et al. (2017) stressed that a failed technology project not only brings big losses, but it can certainly put an end to the business entirely.

In spite of the extensive literature on the architecture and design of ERP systems, very little attention has been paid to the issue in developing countries even though employees' concerns in relation to the ERP implementations are more prevalent in emerging and developing economies. ERP studies did not pay attention to the social impacts of ERP implementation on employees and work environments. This study seeks to bridge this gap in the literature by investigating the impact of the introduction of new technology on employees in Saudi universities.

3. Methodology

The study is based on a case study design using the qualitative method of primary data collection. For data collection purposes, three tools are used: questionnaire/survey, interviews, and document analysis. Document analysis is a form of qualitative research in which organizational and institutional records and documents are reviewed and evaluated "in order to elicit meaning, gain understanding, and develop empirical knowledge" (Bowen, 2009). In some research settings, documents are important for investigating a case study. Documents of the kind include letters, diaries, meeting minutes, and reports. In our investigation of the social implications of the ERP implementation, document

analysis is used as a complement to the other research methods of the survey and interviews. The rationale is that case study design is appropriate for qualitative research of an in-depth analysis of a given case. Qualitative data analysis, in turn, is useful for understanding social impacts of the ERP implementations on work environment and employees as it helps researchers understand social phenomena in natural settings giving emphasis to the meanings, experiences, and views of the participants (Savin-Baden and Howell-Major, 2013; Silverman, 2011).

For data representativeness purposes, the survey was distributed to the faculty members and employees in the Saudi universities and the employees in the Headquarters of the Saudi Ministry of Education. Interviews were also conducted with 15 members of the ERP team in different universities. The questions asked during the interviews were based on the way they perceive and understand employees' problems and concerns about the ERP implementation process. All the documents and records related to the ERP implementation process were collected and reviewed. These included the reports, diaries, and meeting minutes. Employees participating in the survey or interviews were clearly told that their identities would not be revealed in any data or reports and those survey responses would not be linked with other administrative records. Anonymity and confidentiality of all respondents are to be protected to the fullest possible extent.

4. Analysis

Based on the responses of the employees and faculty members to the survey, we can see that the majority of respondents indicated that the implementation of the new system led to increased expectations from colleagues, supervisors, and executives. This result is not surprising anyway. With the introduction of technological innovations in organizations, employees, and staff always have the impression that colleagues, supervisors, and executives expect more from them. However, this impression has its implications with the way they approach such innovations and changes. Once again, the majority of respondents have the belief that the introduction of the new system led to an increase in the workload. This result is related to the first one. In the same way, 73% believe that they have never been off duty. This is, however, a negative attitude towards the new system.

Asked about the impact of the implementation of the new system on the social and family life of employees, 38.3 % reported that the new system resulted in lengthening the working day, which has negative impacts on their family life. Only 14.9% reported that the new responsibilities they adopted led to family conflicts. Although this is comparatively a minority, it should be considered especially there are many respondents whose answer was "I do not know." This reflects that they may have real

problems, but they cannot attribute it directly to the implementation of the new system. Asked about the impact of the introduction of the new system on stress levels of the employees, 66% indicated that there is an increase in their stress levels due to the fact that the new system makes them monitored all the time by their supervisors. Most of the employees also did not agree that the new system enables them to work more flexibly, which has a positive impact on my stress levels.

Responding to questions related to the relationship between the implementation of the new system and employees' knowledge and skills, 90.1% stressed that the new system requires more knowledge and skills. Only 41.8% agreed that the organization provides sufficient training. Therefore, it was likely that 38.3% believe that the introduction of the new system threatens their professional career in the organization.

Concerning employees' perceptions of the organizational changes and performance as well as the impact of the new system on their own performance and position in the organization, 73% agreed that the introduction of the new system led to drastic organizational changes. Only 2% were happy with these changes. Concerning employees' perceptions of the role of the new system in improving the organization's performance and their own performance, 49.6% agreed that the new system had a significant role in improving their own performance. Only 41.8% agreed that the system resulted in improving organization performance. It is not surprising then that only 37.6% are happy with their work/life balance after introducing the new system. Finally, 47.5% reported that they are not happy with the new system. The problem here is that if employees are not happy with these changes, they will not be motivated to run or use it, so the system will be unused. This problem can be attributed to the unsuccessful communication between the IT and ERP team and employees and staff in other departments.

As for the interview with the selected ERP team members, results indicate that the interviewees believe that the ERP implementation is a high priority for the universities today since the organization is expanding its business in different geographic regions and carrying out very complex projects that require the integration of processes and tasks. They explained that the firm is running its business through three campuses that are located in three different geographic locations, which makes it difficult for running the business without an ERP system effectively. ERP implementation then saves time and leads to the achievement of tasks in a smooth and effective way. They indicated that they are in charge of implementing the system in accordance with the top management's resolution of making it the ERP team's responsibility to take over the project, and they expressed their determination to make the project successful. They added that the introduction of the ERP system led to some organizational changes which were important for

implementing the system as it required specific skills and knowledge.

They stressed that the project is doing very well in terms of accurate and fast information accessibility, which helps employees and staff from different departments and different locations work together across functions smoothly and effectively. They also reported that they usually receive technical problems from employees in different departments, and they deal with them promptly. However, they did not say that they discuss the social impacts of the new system on their life. They are only concerned with the technical problems and questions that can make it difficult for employees to use the system.

Asked whether there is any change or increase in the workload due to the introduction of the new system, the employees and faculty members stressed that the workload is almost the same and that the new system saves time. They add that some tasks used to take days before the implementation of the new ERP system. Now, the same tasks are done instantly due to information and data accessibility. Therefore, they require employees to be connected to the system all the time so that tasks are done without delay.

Concerning training, the interviewees indicated that so far, there are no sufficient and effective training courses or workshops that can help employees getting familiar easily and quickly with the new system. They stressed the need for an effective training program so that people are trained on the proper use of the ERP system; otherwise, the high cost of the new system will go in vain. They add that the project represents a significant technological innovation that needs good training. Employees cannot start using the system by themselves immediately after it is introduced. They expressed their concerns and worries that the system will be unused if there is no effective training. According to them, there is no budget so far allocated by the top management for conducting training courses and workshops for the employees. Interviewees also raised the issue of systems integration. Since the implementation of the ERP systems is not completed yet, many operations remain unresolved. They think that this can be one of the reasons that employees think there is no improvement in their performance or the organization's performance due to the implementation of the new system. They expressed their hopes that systems integration is completed as soon as possible.

As for organizational documents, initial reports indicate that there is a relative increase in employees' productivity as well as organization performance due to the implementation of the new system. However, the results obtained are still under expectations. The top management and executives still expect much more from the employees and staff.

These reports also indicate that the ERP team receives many technical complaints from employees in other departments. In the reports and meeting minutes, we obtained, it was clear that the organization is committed to the success of the new system. However, the organization executives make it the ERP team's job to make the project successful.

5. Discussions

Data analyses indicate that there are some problems that may have negative impacts on the success of the implementation of the new system. There is no sufficient communication with the employees concerning the impacts of implementing the new system on the work environment and their social life. The organization executives make it the job of the ERP team to make sure that the system is successfully implemented. There is no involvement of employees and supervisors in other departments in the process. Although employees receive feedback concerning the technical problems they face in dealing with the new system, there is no consideration of their social concerns. This can be considered as the main factor for employees' dissatisfaction with the new system. Based on the results, the main problems and challenges that may have negative impacts on the ERP implementation in Saudi universities can be summarized as follows.

5.1. The negative impacts of the new system on employees' personal lives

Results indicated that many employees believe that the introduction of the new system has negative impacts on increasing stress levels and even causing family conflicts. This is attributed to some reasons: (1) their feeling that there is an increase in the workload, (2) the increased expectations from colleagues, supervisors, and executives, (3) and the idea that they are monitored by my supervisors increases all the time. According to Kotter (2012), employees' personal problems and stress levels represent major barriers to the implementation of technological changes. In this way, the organization should address the social problems of the employees and find ways of reducing their stress levels (Bauer et al., 2018; Griffith et al., 1999; Wang et al., 2008). Organizations should address employees' stress and fears with actionable strategies and real-world solutions (Greiner, 2019).

5.2. Lack of training and its impact on the success of the system and employees' professional careers in the organization

Results from the employee survey and the interviews with the ERP team indicated that there is no sufficient training for employees. This problem has negative implications on performance, productivity, and, consequently, the self-confidence of employees. As indicated above, many employees have the belief that the new system requires new knowledge and skills and that their career is threatened due to the introduction of the new system. This requires organizations and institutions

to provide extensive training programs to their employees. Baswapatruni (2016) argued that the lack of training in the initial stages is very critical. The organization should allocate funds for training. He adds that ERP projects that provide sufficient training for the employees are more successful than projects that do not provide training opportunities for the employees and staff. He stresses that "ERP training is an important part of ERP implementation, and it should be given high priority. ERP training should start from the very beginning and continue until the ERP system is implemented completely."

5.3. Negative perceptions of organizational changes and performance

Employees should be clearly informed that the introduction of new technologies is associated with better employment growth and productivity. Employees generally find difficulties in dealing with the new ERP systems because the systems integration is not fully completed yet. Different studies have referred to the importance of systems integration in both conventional organizations and those based on complex projects. Business models are fundamentally linked to technological innovation. Therefore, organizations need to keep up with technological changes. Technological changes have direct implications on the work environment, business organization, and employees' life and career. In order to be successfully implemented, employees and staff's concerns and problems should be considered, so they are more willing to accept them. Technological changes have a significant impact on employees' performance, productivity, morale, and engagement.

5.4. Framework for the ERP implementation in the Saudi universities

Based on the challenges and problems, a framework is proposed for the successful implementation of the new ERP systems.

5.5. Communication

Effective communication between management and employees promotes healthy responses to change. In this way, the organization should encourage employees to discuss openly the problems that stress them. They should cooperate in finding ways that can solve their social problems. The organization should also make its employees confident that they are having control over their work environment. Executives and leaders should also make sure that social support is available within and even outside the organization.

5.6. Employee involvement

Employees need to realize that ERP implementation is not only useful for improving organizational performance, but it is very useful for developing their own skills as well.

For the successful implementation of the ERP system, all employees should be involved in the process. Employees should also receive intensive training courses. Finally, there should be awareness programs. Employees should understand that the new system provides them with new skills and knowledge which are very useful to them. They need to be aware that the successful implementation of the new system enhances their assets and improves their performance.

6. Conclusion

This study attempted to investigate the impact of carrying out technological innovations and ERP implementation on the work environment and the personal lives of the employees with reference to the Saudi universities. It was found out that the introduction of the new ERP systems resulted in different social problems for the employees, including family conflicts, increasing stress levels, dissatisfaction with the organizational changes, and concerns about their future and career in the organization. These problems have negative impacts on employees' satisfaction with the new system as well as their perceptions of its usefulness and effectiveness in improving the organization's performance. The implication is that when employees and staff are not convinced of the usefulness and effectiveness of changes, and when they are not happy with them, they will not be motivated to carry them out. In our case, the employees will not be motivated to use the new system as they do not believe in its effectiveness in improving the organization's performance.

Accordingly, it can be claimed that understanding social factors and employees' problems and concerns that result from introducing technological innovations is essential for the successful implementation of these innovations. The rationale is that addressing employees' social concerns will have positive impacts on their motivation and commitment to changes and innovations. There should be a mutual adaptation between the IT and organizational environments. By this process, I mean that the implementation of the ERP system should assimilate the work environment taking into account the culture and backgrounds of the employees who are the end-users of the system. There should be mutual understanding and cooperation between the organization executives, ERP team, and IT departments on the one hand and the university staff and employees on the other hand. For the proper management of the technological innovations and the successful implementation of the ERP system in the Saudi universities, this study suggests a framework based on the following: Addressing employees' social needs and concerns, communication, and employee involvement and training.

ERP researchers and designers are finally recommended to find solutions that are more tailored to the needs and convenience of the employees and the workforce. Organizations and institutions are also recommended to create a proper working environment prior to and during the ERP implementation processes. Although the study is limited to the Saudi Higher Education institutions, the findings can be extended to the other departments and Ministries.

Acknowledgment

Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

References

Aldayel AI, Aldayel MS, and Al-Mudimigh AS (2011). The critical success factors of ERP implementation in higher education in Saudi Arabia: A case study. Journal of Information Technology and Economic Development, 2(2): 1-16.

Barker T and Frolick MN (2003). ERP implementation failure: A case study. Information Systems Management, 20(4): 43-49. https://doi.org/10.1201/1078/43647.20.4.20030901/77292.7

Baswapatruni S (2016). 4 Benefits of implementing end user ERP training. Commlab India: Global Learning Solutions, Secunderabad, India. Available online at: https://bit.ly/2BJuHq4

Bauer T, Erdogan B, Caughlin D, and Truxillo D (2018). Human resource management: People, data, and analytics. SAGE Publications, Thousand Oaks, USA.

Bowen GA (2009). Document analysis as a qualitative research method. Qualitative Research Journal, 9(2): 27-40. https://doi.org/10.3316/QRJ0902027

Chmiel N, Fraccaroli F, and Sverke M (2017). An introduction to work and organizational psychology: An international perspective. John Wiley and Sons, Hoboken, USA. https://doi.org/10.1002/9781119168058

Choi JN and Chang JY (2009). Innovation implementation in the public sector: An integration of institutional and collective dynamics. Journal of Applied Psychology, 94(1): 245–253. https://doi.org/10.1037/a0012994 PMid:19186909

Cummings TG and Worley CG (2014). Organization development and change. 10th Edition, Cengage Learning, Boston, USA.

Daniel AD, Teixeira AAC, and Preto MT (2019). Examining the role of entrepreneurial universities in regional development (advances in higher education and professional development). 1st Edition, IGI Global, Pennsylvania, USA. https://doi.org/10.4018/978-1-7998-0174-0

Davies A and Hobday M (2005). The business of projects: Managing innovation in complex products and systems. Cambridge University Press, Cambridge, UK. https://doi.org/10.1017/CBO9780511493294

Denison D, Hooijberg R, Lane N, and Lief C (2012). Leading culture change in global organizations: Aligning culture and strategy. Volume 394, John Wiley and Sons, Hoboken, USA.

Ferran C and Salim R (2008). Enterprise resource planning for global economies: Managerial issues and challanges. IGI Global, Pennsylvania, USA. https://doi.org/10.4018/978-1-59904-531-3

Fontana RM and Neto AI (2009). ERP systems implementation in complex organizations. Journal of Information Systems and Technology Management, 6(1): 61-92. https://doi.org/10.4301/S1807-17752009000100004

Fruhlinger J, Wailgum T, and Sayer P (2017). 15 famous ERP disasters, dustups and disappointments. Available online at: https://bit.ly/2D7KaAV

Ghosh S and Skibniewski MJ (2010). Enterprise resource planning systems implementation as a complex project: A conceptual framework. Journal of Business Economics and Management, 11(4): 533-549. https://doi.org/10.3846/jbem.2010.26

Greiner N (2019). Stress-less leadership. Entrepreneur Press, Irvine, USA.

Griffith TL, Zammuto RF, and Aiman-Smith L (1999). Why new technologies fail: Overcoming the invisibility of implementation. Industrial Management, 41(3): 29–34.

Hasenfeld Y (2010). Human services as complex organizations. Sage Publications, Thousand Oaks, USA.

Hobday M (2000). The project-based organisation: An ideal form for managing complex products and systems? Research Policy, 29(7-8): 871-893. https://doi.org/10.1016/S0048-7333(00)00110-4

Kotter JP (2012). Leading change. Harvard Business Press, Brighton, USA. https://doi.org/10.15358/9783800646159

Lauchlan S (2016). Vodafone's £4.6m CRM fine–when IT projects attack. Available online at: https://bit.ly/2Pc6HPu

Martin R, Kitson M, and Tyler P (2012). Regional competitiveness. Routledge, Abingdon, UK. https://doi.org/10.4324/9780203607046

Monk EF and Wagner BJ (2013). Concepts in enterprise resource planning. 4th Edition. Cengage Learning, Boston, USA.

Morris PW (2013). Reconstructing project management. John Wiley and Sons, Hoboken, USA. https://doi.org/10.1002/9781118536698

Noaman AY and Ahmed FF (2015). ERP systems functionalities in higher education. Procedia Computer Science, 65: 385-395. https://doi.org/10.1016/j.procs.2015.09.100

O'Leary DE (2000). Enterprise resource planning systems: Systems, life cycle, electronic commerce, and risk. Cambridge University Press, Cambridge, UK. https://doi.org/10.1017/CBO9780511805936

Omar A and Alqahtani MA (2018). The implications of linguistic diversity for the ERP implementation practices in multilingual contexts. International Journal of Advanced and Applied Sciences, 5(7): 46-52. https://doi.org/10.21833/ijaas.2018.07.006

O'Sullivan J and Caiola G (2014). Enterprise resource planning concepts: Understanding the power of ERP for today's businesses. DMMSI Associates Inc., New York, USA.

Salas E, Goodwin GF, and Burke CS (2008). Team effectiveness in comple x organizations: Cross-disciplinary perspectives and approaches. Routledge, Abingdon, UK. https://doi.org/10.4324/9780203889312

Savin-Baden M and Howell-Major C (2013). Qualititative research: The essential guide to theory and practice. Routledge, Abingdon, UK.

Schein EH and Schein PA (2016). Organizational culture and leadership. 5th Edition, John Wiley and Sons, Hoboken, USA.

Shavinina LV (2013). The Routledge international handbook of innovation education. Routledge, Abingdon, UK. https://doi.org/10.4324/9780203387146

Silverman D (2011). Qualitative research: Issues of theory, method and practice. 3rd Edition, Sage Publications, Thousand Oaks, USA.

Strodtbeck GK (2016). Making change in complex organizations. Quality Press, Seattle, USA.

Wang ET, Shih SP, Jiang JJ, and Klein G (2008). The consistency among facilitating factors and ERP implementation success: A holistic view of fit. Journal of Systems and Software, 81(9): 1609-1621. https://doi.org/10.1016/j.jss.2007.11.722

Zhou J (2015). The Oxford handbook of creativity, innovation, and entrepreneurship. Oxford University Press, Oxford, UK.