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How Can Technology Transfer Concepts Lead to a Successful ERP Implementation?

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Abstract: This study aims to identify Critical Success Factors (CSFs) in implementation of Enterprise Resource Planning (ERP) systems that are effective on organization success. While scholars have tried to apply concepts such as Change Management (CM), Knowledge Management (KM) and Innovation Management (IM) to offer solutions to overcome challenges in implementing ERP systems, the Transfer aspect of ERP implementation has been lessdeveloped; transfer from a developer company (vendor) to a receiver company. Hence, we have summarized our identified effective measures in ERP implementation and Technology Transfer (TT) into a questionnaire that was distributed among managers and experts of four Iranian large companies and their ERP vendors. Results from Exploratory Factor Analysis (EFA) shows that following five main factors are effective on ERP implementation success: Culture, Organizational Structure, Project Management, Support Activities and Training Issues and the Interaction between Transferor and Transferee. Furthermore, effect of each main factor on organization success has been calculated by Pearson method.

Keywords: EFA, ERP implementation, organization success, technology transfer

INTRODUCTION

In the last decade, ERP implementationhas dealt with challenges which decrease the chances of implementation success in practice (Kim *et al*., 2005; Bottagenoulaz *et al*., 2005). To overcome these challenges, many researchers have applied concepts such as CM, KM and IM to moderate and handle implementation issues (some studies will be reviewed in continue in this study); however challenges continue to exist and successful ERP implementation has become a crucial topic both for ERP vendors and organizations that have adopted an ERP system. In this study, we offer a new look into ERP deployment as a Technology, made by a Developer Company and used by a Recipient Company. In other words, technology, knowledge and information developed by a creator is applied and utilized by an applier. This process is called Technology Transfer (Cetindamar *et al*., 2010).

As we have declared above, we look into ERP as a technology. This technology comes to Receptor Company from a Developer Company; thus, a TT happens. What we here emphasize on is to learn from TT literature and practice to apply in ERP adoption. In following, we review concepts of ERP implementation, TT and organization success related to adoption of a new enterprise system. Also, in this section we introduce some famous models that researchers in these fields have introduced. Later, we study how Technology Transfer concepts can lead to a successful ERP Implementation, by focusing on four Iranian large companies.

LITERATURE REVIEW

ERP implementation: Today, industrial information systems are mostly implemented through Enterprise Resource Planning (ERP) systems (Worley *et al*., 2005) .An ERP system is a modular integrated business software system that facilitates an organization to use its resources efficiently and effectively(Nah *et al*., 2001). ERP is a wide range system that covers all organization levels and enhances all business activities and processes (Klaus *et al*., 2000). In fact, ERP systems have increased the productivity of organizational functions by increasing their continuous access to real-time information and enabling them to plan well-timed and efficient (Verville *et al*., 2007). The Integration brought by ERP enables organizations (Bingi *et al*., 1999) to respond to competitive forces and market opportunities, to improve product portfolio and to maintain supply-chain relations strictly (Al-mashari, 2000; Al-mashari *et al*., 2003).

Many researchers assert that ERP systems are standardized systems, utilizing a single powerful database across the company. This means data should be standardized through the whole company(Amoako-gyampah and Salam, 2004; Bradford and Florin, 2003).

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Also, ERP deployment necessitates process standardization (Bradford and Florin, 2003). From a business perspective, ERP-driven reengineering of business processes to company-wide standards is looked to be valuable by managers involved in implementation(Ehie and Madsen, 2005 ; Xue *et al*., 2005). Although the outstanding advantages of ERP systems have led Companies to move toward adopting them, many have cited failures in ERP implementations (Xue *et al*., 2005; Aladwani, 2001; Kumar *et al*., 2002; Kumar *et al*., 2003; Motwani *et al*., 2005) that invoke attention to the nature of ERP implementation.

ERP Implementing causes massive change that needs to be carefully managed in order to acquire the benefits of an ERP solution. To ensure successful implementation, there are critical issues that must be carefully considered and managed (Bingi *et al*., 1999). Recent researches (from 2000 until now) have increasingly studied Critical Success Factors in ERP implementation in different circumstances.

Nah *et al*. (2001) believe that previous studies of ERP implementation rarely proposed a set of critical success factors. Therefore, they reviewed ten articles that contained either the keyword "success/succeed" or "critical issues/ factors" and the term "ERP" or its' equivalent. In result, they introduced 11 CSFs and classified them into Markus and Tanis's (2000) ERP life cycle (Nah *et al*., 2001).

Aladwani (2001) claims in implementing ERP systems top managers are faced with user resistance. Therefore he posits an integrated process oriented approach for facing the complex social problems of users' resistance to ERP and suggests to adapt marketing concepts and strategies to ERP context (Aladwani,2001).

Al-Mashari *et al*. (2003) state that ERP systems lead to acquiring tangible and intangible benefits. However, these benefits are dependent on the approach adopted for the evaluation, selection and project management of ERP systems. In their opinion, ERP benefits are realized when a close relation is formed between implementation approach and business-wide performance measures(Al-mashari *et al*., 2003)

Kumar *et al*. (2002) by studying ERP implementation in government organizations, identify critical management challenges in the ERP implementation activities such as training, upgrading infrastructure, project management and stabilizing ERP systems(Kumar *et al*., 2002). A considerable indication in this research is emphasizing innovation in ERP adoption (Kumar *et al*., 2003).

Motwani *et al*. (2005) argue that an implementation process backed with careful change management, network relationships and cultural readiness triggers successful ERP implementations. Furthermore, they draw critical factors/issues needed to be considered during stages of the implementation (Motwani *et al*., 2005).

Ngai *et al*. (2008) surveyed literature review of CSFs in ERP implementation across 10 different countries/regions and identified 18 CSFs. They indicate that many companies have faced considerable difficulties implementing huge ERP systems as there is a lack of effective guidance on the implementation of ERP (Ngai *et al*., 2008).

Pang-Lo (2011) collated the literature relevant to ERP and KM and integrates the findings to introduce the ERP KM concept. He summarizes the CSFs for ERP KM context and surveys the influence of these CSFs on management performance (Pang-Lo, 2011).

Researchers have adapted different concepts and approaches to solve problems during ERP implementation. *Some* scholars see ERP as a phenomena that incorporates changes specifically in the areas of culture, business process and organization and technology (Aladwani, 2001; Khalil, 2000; Garcia Sanchez and Perez-Bernal, 2007; Phaal *et al*., 2004; Rogers *et al*., 2001)

These changes are challenged by individuals, groups and even organization structure as they are accustomed to current procedures and conditions and therefore, resist accepting the new system. This is the main reason to adapt the CM strategies in ERP implementation. *Other* researchers show that KM is accompanied closely with ERP implementation. They note that ERP is an organizational infrastructure that affects how people work and imposes its own logic on a company's strategy, organization and culture (Li *et al*., 2006; Gable *et al*., 1998). ERP system is not only a software package to be delivered to an organization but also a set of knowledge (tacit and explicit) that is used by knowledge employees. It is essential to identify the existing knowledge and the required knowledge as well as to map a path to fill the gap between current and desired situation (Li *et al*., 2006; Madu, 1989); in this case KM concepts is applied. *Yet another group of experts* investigate Innovation aspect of ERP. They believe, Organizations that have successfully adopted ERP systems view them among the most important innovations that have led to the realization of substantial tangible and intangible improvements (Kumar *et al*., 2003). IM facilitates the accordance of ERP implementation with implementation objectives through supporting users in training, maintenance and equipment upgrades (Kemp and Low, 2008).

Technology transfer: Phyllis (2006) defines Technology as an aid for conducting an activity which is repeated time and time again (Phyllis, 2006). Technology may be a tool, a technique, a material, a skill, a capability and organizational structure, or knowledge (Khalil, 2000). On the other hand, ERP provides services to all departments in an organization. It provides the enterprise with the capacity to plan and manage its resources based on an approach that aims to integrate processes, functions and

activities in an organization (Garcia Sanchez and Perez-Bernal, 2007). Therefore, we investigate ERP as a technology, for technology is a composition of technoware (facilities used such as IT infrastructure and ERP software), humanware (abilities to understand, capacity for systematic application of knowledge and human capability such as project manager, expert employees and change agent), orgaware (frameworks and institutions to utilize technoware such as organization structure and procedures, organizational culture and standards) and infoware (data, information and scientific knowledge such as system documentations, guidelines and reports extracted from System) (Phaal *et al*., 2004).

TT is the process by which the technology, knowledge and information developed by a creator is applied and utilized by an applier (Cetindamar *et al*., 2010). The technology transfer process usually involves moving a technological innovation from an R&D organization to a receptor organization (Rogers *et al*., 2001). Technology incorporates not only equipments but also know-hows and skills(Cetindamar *et al*., 2010); consequently, Transfer term does not just indicate a convey process but also it encompasses ideas such as adoption, possession and promotion (Lee, 1997). Success in TT requires understanding of feelings and attitudes in both sides (Transferor and Transferee) that have two sets of different skills, values and priorities (Cetindamar *et al*., 2010).

Calantone *et al*. (1988), Based on a comparative marketing research concept develops a TT framework that consists mainly of five components (factors) that confine TT process. These factors are: Function, Environment, Actors, Process and Structure.

Madu (1989) focuses on TT from developed countries or multinational corporations to developing countries. He suggests a framework that takes a holistic or systematic view of TT and notes how technology can progress through Research and Development (R&D) (Madu *et al*., 1998). By emphasizing on structural factors, Madu stresses cultural value system to be a CSF in TT(Madu, 1989).

Simkoko (1992) focuses on TT in the construction industry of developing countries. In this study, Competence development through TT was carefully observed to determine the influential factors that affect this process. Nevertheless, there are a broad range of competence development benefits described which could be applied to overall value added through TT (Simkoko, 1992).

Lin and Berg (2001) conducted an exploratory study to measure the effect of cultural differences on TT projects. They surveyed a conceptual model in Taiwan's manufacturing companies. Lin and Berg identify three groups of factors: nature of technology; previous international experience; and the cultural difference between the technology provider and receiver (Lin and Berg, 2001).

Saad *et al*. (2002) attempt to broaden the analysis of the technology transfer phenomenon by focusing research attention on assessing the performance of TT projects and evaluating their success in terms of acceptability to the recipient environment. They assert that TT projects are complex and risky in that they convey a great deal of uncertainty made up of technical, organizational, market, social, political and cultural factors (Saad *et al*., 2002).

Reisman (2005) believes that because of TT's multifaceted and multidisciplinary nature, a cross-disciplinary "Meta approach" is needed to study it as a subject area. He provides a taxonomy or classification of the various TT actors, their motivations and the modalities of their transactions(Reisman, 2005).

Waroonkun and Stewart (2007) propose a conceptual model for international TT. The derived structural model consisted of five factors and five paths, representing the interrelationships between the four enabling and one outcome factor. In conclusion, authors argue that Exploratory Factor Analysis and Confirmatory Factor Analysis carried in the research provide some indication that factors addressing technology characteristics, mode of transfer, culture and training could be included in the model and should be investigated (Waroonkun and Stewart, 2007).

Mohamed *et al*. (2010) Aim to extract an appropriate conceptual TT model in the context of Libyan oil industry and focus on literature on modeling of technology transfer in the diverse industry sectors. The result of their research contains TT support, TT infrastructure, TT Environment and TT Learning Capability as four CSFs (Mohamed *et al*., 2010).

According to our contribution (ERP as a Technology), we have reviewed current literature and have summarized Critical Success Factors (CSFs) that integrate the concepts of ERP implementation and TT. Table 1 presents 28 measures that we have identified.

Organization success: Success in ERP implementation can lead to improvement in organization performance. Studies indicate that return on assets, return on investment and asset turnover are significantly better over a 3-year period for ERP adopters, as compared to non-adopters (Botta-genoulaz *et al*., 2005). Most large organizations world-wide have already adopted ERP and increasingly Small and Medium-sized Enterprises (SMEs) are finding it cost effective, a competitive necessity and an effective way toward traceability, since it facilitates integration between modules, data storing/retrieving processes and management and analysis functionalities (Al-mashari, 2003; Klaus *et al*., 2000; Ganesh and Mehta, 2010). The effective implementation of such a system can bring about many benefits, beginning with the most general, such as enterprise management and information flow enhancement. Consequently, improvement of economic indicators is achievable, which finally leads to an increase

Table 1: 28 CSFs identified from ERP implementation and TT concepts

No.	CSFs in ERP implementation	Other studies
H1	Change program	(Nah *et al*., 2001; Aladwani, 2001; Kumar *et al*., 2002; Ngai *et al*., 2008)
H2	Method of communication	(Aladwani, 2001; Saad *et al*., 2002; Mohamed *et al*., 2010)
*	appropriate celebration	(Motwani *et al*., 2005)
H3	Involving individual and groups	(Aladwani, 2001; Saad *et al*., 2002; Ngai *et al*., 2008; Garcia Sanchez and Perez-Bernal, 2007)
H4	Cultural value system	(Madu, 1989; Nah *et al*., 2001)
H5	Motivations	(Reisman, 2005; Mohamed *et al*., 2010)
H6	Top management support	(Nah *et al*., 2001; Aladwani, 2001; Garcia Sanchez and Perez-Bernal, 2007; Pang-Lo, 2011)
H7	ERP package selection	(Madu, 1989; Kumar *et al*., 2002; Al-Mashari *et al*., 2003; Motwani *et al*., 2005; Ngai *et al*., 2008)
H8	Standards	(Motwani *et al*., 2005; Reisman, 2005; Mohamed *et al*., 2010)
H9	BPR	(Simkoko, 1992; Nah *et al*., 2001; Ngai *et al*., 2008; Pang-Lo, 2011)
H10	Transfer environment	(Nah *et al*., 2001; Lin and Berg, 2001; Motwani *et al*., 2005; Waroonkun and Stewart, 2007; Ngai *et al*., 2008; Mohamed *et al*., 2010)
H11	ERP teamwork and composition	(Simkoko, 1992; Nah *et al*., 2001; Kumar *et al*., 2002; Motwani *et al*., 2005; Garcia Sanchez and Perez-Bernal, 2007; Mohamed *et al*., 2010)
H12	Implementation plan	(Simkoko, 1992; Nah *et al*., 2001; Al-Mashari *et al*., 2003; Motwani *et al*., 2005; Ngai *et al*., 2008; Reisman, 2005; Mohamed *et al*., 2010)
H13	Project champion	(Nah *et al*., 2001; Garcia Sanchez and Perez-Bernal, 2007; Ngai *et al*., 2008)
H14	Project characteristics	(Calantone *et al*., 1988; Simkoko, 1992; Lin and Berg, 2001; Saad *et al*., 2002; Ngai *et al*., 2008; Mohamed *et al*., 2010)
H15	Supervisory	(Madu, 1989; Saad *et al*., 2002; Al-Mashari *et al*., 2003; Ngai *et al*., 2008; Mohamed *et al*., 2010)
H16	Corporate and business vision	(Madu, 1989; Nah *et al*., 2001; Al-Mashari *et al*., 2003; Reisman, 2005; Ngai *et al*., 2008; Pang-Lo, 2011)
H17	Proper training and education programs	(Madu, 1989; Kumar *et al*., 2002; Al-Mashari *et al*., 2003; Waroonkun and Stewart, 2007; Mohamed *et al*., 2010; Pang-Lo, 2011)
H18	Software configuration	(Al-Mashari *et al*., 2003; Kumar *et al*., 2002)
H19	Knowledge capability	(Madu, 1989; Ngai *et al*., 2008; Mohamed *et al*., 2010)
*	opening information and communication policy	(Aladwani, 2001; Motwani *et al*., 2005)
H20	Identification of suitable employees	(Al-Mashari *et al*., 2003; Kumar *et al*., 2002; Pang-Lo, 2011)
H21	Testing and troubleshooting	(Nah *et al*., 2001; Al-Mashari *et al*., 2003; Kumar *et al*., 2002; Ngai *et al*., 2008)
H22	Monitoring	(Calantone *et al*., 1988; Nah *et al*., 2001; Ngai *et al*., 2008)
H23	Performance evaluation	(Simkoko, 1992; Nah *et al*., 2001; Ngai *et al*., 2008)
H24	Consulting firms and vendors	(Calantone *et al*., 1988; Reisman, 2005; Mohamed *et al*., 2010; Pang-Lo, 2011)
H25	R&D methods	(Calantone *et al*., 1988; Madu, 1989; Nah *et al*., 2001; Ngai *et al*., 2008)
H26	Transferor and transferee characteristics	(Calantone *et al*., 1988; Garcia Sanchez and Perez-Bernal, 2007; Waroonkun and Stewart, 2007; Mohamed *et al*., 2010)

*: These two CSFs were omitted due to their *p-value*

in enterprise profitability (Soja, 2006; Kronbichler *et al*., 2009).

Technology Transfer as one of technology acquisition strategy(Chiesa, 2000), can promote organizational capabilities, increase organization assets, improve market position, strengthen firm brand and fulfill gaps among current situation and its future within shortest time possible (Teece and Pisano, 1994; Khalil, 2000; Chiesa, 2001). Therefore, if ERP implementation processis successful comprehensively, organization will gain numerous benefits and advantages.

METHODOLOGY

Proposed procedure: To identify the CSFs of ERP implementationand measuring their effects on organization success, the following steps are applied:

Step 1: Extracting measures from ERP and TT concepts
Step 2: Applying the t-test to evaluate importance of the measures and omit unimportant measures
Step 3: Using the Exploratory Factor Analysis to define CSFs
Step 4: UtilizingPearson Correlation Method to obtain correlation among CSFs and organization success
Step 5: Summarizing results above steps and proposing the final model.

Research cases: For empirical study, four Iranian large companies that are in the heavy-metal industry were chosen. Since these companies have many divisions, complex production processes and various products, they were faced to challenges in coordinating, aligning and evaluating their business. After conferment with their consultants, these companies decided to adopt ERP as a confirmed solution to their business complications. Managers of these companies and Their ERP vendors state that their staffs have shown lots of complaints and dissatisfactionduring thephases of ERP implementation. To study reasons behind this situation, we started our survey based on measures that we had extracted from literature review in these four companies simultaneously.

Data collection: Based on literature review, 28 measures were identified from the mentioned concepts. These measures were used to form our questionnaire. To

measure effect of ERP implementation on organization success, in the last question respondents were asked to rate how they may describe their organizations' success by using a seven-point scale ranging from very effective to non-effective.

We asked managers and experts of the four companies (and their ERP vendors) to address their qualified members that could cooperate with us through the research. To this point, we selected 300 respondents to fill our questionnaire. 210 questionnaires were recovered while 199 were effective.

Reliability and validity analysis: Reliability analysis of a questionnaire refers to how dependably or constantly a test measures and validity the means measurement how well the test measures that factors (Cooper *et al*., 2010). Reliability; to appraise the reliability of instrument, we calculate Cronbach's alpha. Reliable validity was established on the contents and wording of the modified questionnaire after the first distribution among experts. The Cronbach is calculated for questions based on the score of the answers provided. In this study, the reliability of measures is 0.788.

In order to determine whether the partial correlation of the variables was small, the authors used the Kaiser-Meyer-Olkin (KMO) and Bartlett's Chi-square test of sphericity before conducting the factor analysis. The result was a KMO of 0.854 and Bartlett test was less than 0.05.

T-test: One sample t-tests are used to non-response bias test. So, the mean scores of a sample are compared to a known value (by considering, using 7 point Likert item for questionnaire, value is equal to 4) t-test statistic: $t=\frac{\mu-\overline{X}}{S/\sqrt{n}}$, assumptions: $\begin{cases} H_0: \mu \geq 4 \\ H_1: \mu < 4 \end{cases}$. In this test, null hypothesis reject if P-Value is above 0.05 and null hypothesis not reject if it isn't. After pre-testing, the questionnaire was sent to 32 respondents (top and middle managers). They were asked to score questions in a 7 point Likert item. T-test results indicate that "Appropriate celebration" and "Opening information and communication policy" should be omitted from final questionnaire (p-value for these two factors were above 0.05).

EFA: Exploratory Factor Analysis (EFA): EFA technique focuses on underlying constructs of observed phenomena and attempts to determine structure of observed data (Kline, 1994). This multivariate technique provides direct insight into the inter-relationships between variables and empirical support for addressing conceptual issues relating to the underlying structure of the data. It also plays an important complementary role with other multivariate techniques through both data summarization and data reduction. From the data summarization perspective, factor analysis provides the researcher with a clear understanding of which variables may act together and how many variables may actually be expected to have impacts in the analysis (Hair *et al*., 2009; Meyers *et al*., 2006). Since in our review of literature we discovered diverse and numerous measures that influence ERP implementation and our perspective to ERP implementation is novel, we needed a method that addresses our conceptual concerns and summarizes our findings for researchers and managers who work in this field. This is the reason we have used EFA which is a tool to construct a comprehensive structure in empirical findings. We used SPSS 19 to analyze data. Table 2 shows EFA result of the identified 26 CSFs that were grouped into 5 main factors.

Table 2: Result of EFA: varimax rotated factor loading for the five main factors

Factor	Measures	Loading
Culture		
Variance = 17.925%	Change program	0.952
	Method of communication	0.913
	Involving individual and groups	0.907
	Cultural value system	0.913
	Motivations	0.923
Organization structure		
Variance = 16.022%	Top management support	0.957
	ERP package selection	0.954
	Standards	0.919
	BPR	0.954
	Transfer environment	0.936
Project management		
Variance = 27.367%	ERP teamwork and composition	0.986
	Implementation plan	0.930
	Project champion0.960	
	Project characteristics	0.935
	Supervisory	0.986
	Corporate and business vision	0.941
Training programs and supporting activities		
Variance = 9.320%	Proper training and education programs	0.922
	Software configuration	0.877
	Knowledge capability	0.882
	Identification of Suitable employees	0.921
Interaction between transferor and transferee		
Variance = 15.825%	Testing and troubleshooting	0.686
	Monitoring	0.969
	Performance evaluation	0.969
	Consulting firms and vendors	0.925
	R&D methods	0.921
	Transferor and transferee characteristics	0.927

Pearson correlation method: Our next step was to determine the extent to whichthe identified ERP implementation critical factors correlate with organization success. In order to obtain the correlations between main factors and organization success, we applied Pearson correlation method. The Pearson Correlation measures the degree and direction of linear relation between two variables (i.e., X and Y). The result of calculus of the coefficient is a numeric value from 1 to -1 (Frederick and Gravetter, 2008). A value of 1 shows that a linear

Table 3: Pearson correlation between mainfactors and organization success

Main factors	Correlations
Culture	0.409
Organization structure	0.410
Project management	0.483
Training programs and supporting activities	0.013*
Interaction between transferor and transferee	0.504

*: Correlation is not significant at the 0.01 level (two-tailed)

equation describes the relation perfectly and positively, with all data point lying on the same line and with Y increasing with X. a scores of -1 shows that all data point lie on a single line, but that Y increases as X decreases. At least, a value of 0 shows that a linear model is inappropriate-that there is no linear relation between two variables (Moore, 2009). This method requires X (every main Factor) and Y (organization success) inputs. Each of x_i (factors) is calculated by the mean of its measures; i.e., Culture factor score was determined by calculating the mean score of Change program, Method of Communication, Involving individual and groups, Cultural value system and Motivations measures. Also, Y (organization success) score was directly obtained from questionnaire. The results are shown in Table 3.

According to Table 3Interaction between Transferor and Transferee, Project management, Organization Structure and culture factors respectively have the most effect on organization success. Also Training programs and supporting activities factor due to its correlation coefficient has no major correlation with organization success

DISCUSSION AND CONCLUSION

Whilemany researchers have applied concepts such asCM, KM and IM to moderate and handle implementation issues in order to overcome these challenges, the transfer aspect of ERP implementation has been less developed; transfer from a developer company (vendor) to a receiver company.

First, we studied previous researches that were focused on ERP implementation to target both implementation issues and their identified CSFs. Second, TT literature review highlighted TT aspect of ERP implementation, since ERP is a technology and this technology is transferred from a developing company (vendor) to a receiving company. Since both a successful ERP implementation and a successful TT can lead to improvement in organization performance, organization success associated with two concepts was clarified.

Based on literature review, we summarized our identified effective measures in ERP implementation and TT into a questionnaire. It contained both 28 measures and organization success factor. For empirical study, this questionnaire was distributed among the managers and experts of four Iranian large heavy-metal companies and their ERP vendors. By applying EFA, identified and validated CSFs were categorized into five main factors:

- **Culture:** Refers to elements such as types of formal and informal communications, interactions methods and assumptions inside a firm. Set of these culture elements shape a value system and determines motivations drivers as well as behavioral attitudes. In this research, attention to culture factor facilitates adoption of ERP as a new technology by developing change programs that involves various individuals and divisions inside the firm.
- **Organization structure:** Indicates how activities are done in the firm by determining routines, procedures and processes and forms a support system that includes decision making levels, system of reporting and control and coordinating system. Besides forming selection criteria for the firm top management, this factor can align elements of the organization to the ERP system. Furthermore, this factor emphasizes on the role of top management and improvement of processes and routines while implementing ERP.
- **Project management:** Factor consists of considerations and plans for implementing ERP as well as how these considerations and plans are rolled out in line with the firm visions and missions. We claim that procurement, preparation and evaluation in the format of project management and introducing project champion can decrease possibilities of the project failure.
- **Training programs and supporting activities:** Factor, highlights current and needed capabilities and the gap between them and action-plans to fulfill these gaps by focusing on the individual roles.
- **Interaction between transferor and transferee:** Factor considers the collaborative activities between the vendor and the client firm in different phases of ERP implementations. Tasks such as ERP software development, troubleshooting, monitoring, performance evaluation and Consulting are accomplished when an effective relationship among actors of ERP implementations is established.

Results from Pearson method declare that the Project Management and Interaction between Transferor and Transferee factors have the most effect on organization success after ERP implementation. In other words, we suggest essential consideration of project management team composition and the alignment of different actors in an ERP implementation project to derive maximum organization success. To achieve mentioned targets, firms must focus on a precise and optimal planning before and during the project and also evaluation during final phases of the project.

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