www.irmbrjournal.com December 2014
International Review of Management and Business Research Vol. 3 Issue.4

An Empirical Investigation of the Contribution of Internal and External Actors in the Success of Organizational Fit and User Performance: The Moderating Effect of Users' Absorptive Capacity

NEJIB BEN MOUSSA
FSEG Tunis - Campus Universitaire Université de Tunis El Manar,
B-P: 204, Cedex Tunisia.
E-mail: benmoussa_nejib@yahoo.fr
Tel: +216 95 99 01 92

Abstract

By implementing an ERP system in a company, one of the most anticipated objectives is certainly improved user performance. Previous research has shown that adjusting business processes with those of an ERP system is a crucial step. It both contributes to improving individual performance and depends, theoretically, on the quality of transfer and knowledge of three types of actors: consultants, ERP Vendors and internal experts. Users' absorptive capacity influences the relationship between organizational fit and user's performance on the one hand and the relationship between these different actors involved in the implementation process (internal experts, external experts and ERP vendors) and organizational fit the other hand. On a sample of 94 ERP system users we tested these relationships using the PLS method. The results indicate that, in the Tunisian context, performance of individual ERP system users is largely influenced by the success of organizational fit, which in turn depends on the support of the ERP vendor and the contribution of external consultants. The relationship between internal experts and ERP system's organizational fit was not statistically significant. Furthermore, absorptive capacity moderates the relationship between organizational fit and user's performance. However, no moderating effect has been registered for the relationship between the different actors and Organizational fit.

Key Words: *Enterprise resource planning (ERP), internal expert, external expert, ERP vendor, Organizational fit of ERP process, absorptive capacity, user performance, Tunisian companies.*

Introduction

To cope with the rapid environmental changes and to remain competitive, companies are moving toward more sophisticated information systems like ERP. The adoption of these systems allows full integration of all business processes and facilitates access to a single database that includes all the information related to the business activity (Wang et al. 2008). Given the complexity and risk associated to implementing these systems, in recent years researchers started to study their critical success factors (Motwania et al., 2002; Bradford and Florin, 2003; Kumar et al., 2003; Umble et al., 2003). Among the critical success factors of the ERP system that have been identified and on which all researchers agree nearly unanimously, we mention organizational fit. In fact, it is because these ERP systems do not provide a tailored solution to all companies and all sectors (Swan et al. , 1999) that their implementation needs to change their features to approach the company's business processes (Hong and Kim , 2002). Organizational fit operation needs both internal and external expertise. In other words, transfer of knowledge is made possible mainly through three major actors: internal experts, external consultants and ERP vendors. The team responsible for the implementation of an ERP project, in most cases, consists of internal expertise and external consultants

(Chang et al., 2013). External support is mentioned by many researchers as a critical success factor of the ERP system. However, this factor includes both ERP vendors and consultants. Few researches have investigated separately the role of these two actors. The objective of our study is to identify first the contribution of each of these three actors: internal experts, external consultants and ERP vendors in organizational fit of the ERP system.

Second, we investigate the nature of the relationship between Organizational fit of ERP processes and users performance. The most difficult and important task in the implementation phase of the ERP system is certainly the adjustment effort of business processes with the new computer application. In addition to internal experts, the success of this operation depends on the contribution of external experts. Our study attempts to highlight the position of internal and external experts in the success of the organizational adaptation process of the ERP System in Tunisian companies and measure the impact of organizational fit on user performance. Then, the variable "absorptive capacity", as a moderator, was introduced to study first its effect on the relationship between these different actors and organizational fit and second its effect on the nature of the relationship between organizational fit and users' performance. The rest of the paper is organized as follows. The following section summarizes the literature. Section 3 describes the methodology adopted in this study. Section 4 analyzes the results. Section 5 presents and discusses the findings.

Theoretical Framework

Individual Performance Impact

The success of the ERP system is often measured by the degree of achieving the objectives fixed by the company (Davenport, 1998). Previous research has used several criteria to assess the ERP system performance: user satisfaction, individual impact, organizational impact, and intended business performance improvement (Zhang et al, 2005). In fact, the decision to acquire the ERP system is the responsibility of top managers. But investment in learning and especially its use depends on the end users of the new system. The success of the new ERP system depends on the company's personnel behavior. It is for this reason that we believe that ERP system performance largely depends on its impact on users in permanent contact with the new system. In fact the importance of an information system comes from its capacity to improve individual performance expressed in terms of individual improved productivity, task performance improvement, decision effectiveness and quality, and decision-making time. Individual performance has improved individual productivity, decision-making time, decision efficiency and quality, and task performance improvement (Chang et al., 2011).

Organizational Fit of ERP Processes and Individual Performance

Wang et al. (2007) define Organizational fit of ERP as how an ERP system meets the needs of internal business processes. Alignment or adjustment of ERP processes with those of the company has often been the biggest challenge for managers. Generally, there is a gap between the vision building process of the organization and the logic of developing ERP systems that is based on best practices (Umble et al., 2003).
This difference is due, in most cases, to internal characteristics (strategy, structure, culture) and external factors primarily related to the specific field of activity. Therefore, the successful implementation of an ERP system largely depends on the success of the alignment operation of the two approaches (Hong and Kim , 2002): the organization's processes and the ERP system process. This adjustment effort may lead to a profound change that affects all activities, tasks and employees' habits. This change is certainly technical or technological (introduction of a new IT application) but also social which affects relationships and employees' behaviors. Umble and Umble (2002) show that the poor performance of ERP projects is mainly due to the gap between the system's functionality and that required by the organization. It is clear that the success of the ERP project largely depends on organizational fit. Individual performance depends on the success of the alignment operation between business processes and system processes. This implies a better understanding of the features of the system and particularly its ease of use. The more changes caused

by the implementation of the ERP system are accepted and recognized by users, the greater the impact on individual performance is positive. Hence our hypothesis:

H1: Organizational fit is positively related to user's performance.

Internal Experts Support and Organizational Fit

Theorists and practitioners agree on the fact that the success of ERP system depends, in large part, on internal and external competences to adjust the ERP system to the company's specific needs. This causes a change which affects all aspects of the business (technical and social). To ensure a suitable fit between business processes and the system, a team of internal competences is often needed to facilitate the task of external experts. Its role is the harmonization and integration of organizational functions with those of the system (Bingi et al., 1999). Tsai et al. (2011) believe that this team of internal competences plays a crucial role (defining objectives of the system and especially the resolution of conflicts between different actors) in adapting the system to the company's real needs. Hence our hypothesis:

H2: The contribution of internal experts is positively related to organizational fit

External Experts Support and Organizational Fit

Most companies lack the internal skills able of ensuring the implementation of the ERP system. It is this which explains their use of external consultants to fill the gap (Ifinedo, 2011). Consultants play both the role of facilitators and knowledge providers. Because of their perfect knowledge of the ERP system, they are able to help the company to configure and discover all the features and details of the whole package. Generally, the consultant is more available than the ERP vendor. Several studies have highlighted the contribution of external consultants when implementing a new technology (Ben Moussa, 2013; Thong, 2001; Wang et al, 2007; McGivern , 1983). Competent consultants are well experienced in the implementation of ERP systems (Bingi et al., 1999; Al- Mashari et al., 2003). They have technical and managerial skills that enable them to succeed the implementation phase of the new system. Therefore, they transfer the knowledge required for a successful ERP project to the organization (Wang et al, 2007). They provide a more complete understanding of the system and keep track of all the changes that have been implemented (Roberts et al. 2001). Wang and Chen (2006) concluded that the competence of the consultant positively affects the quality of the system. A successful transfer of knowledge from the consultant to customers will better fit the ERP system business processes (Davenport, 2000). Hence our hypothesis:

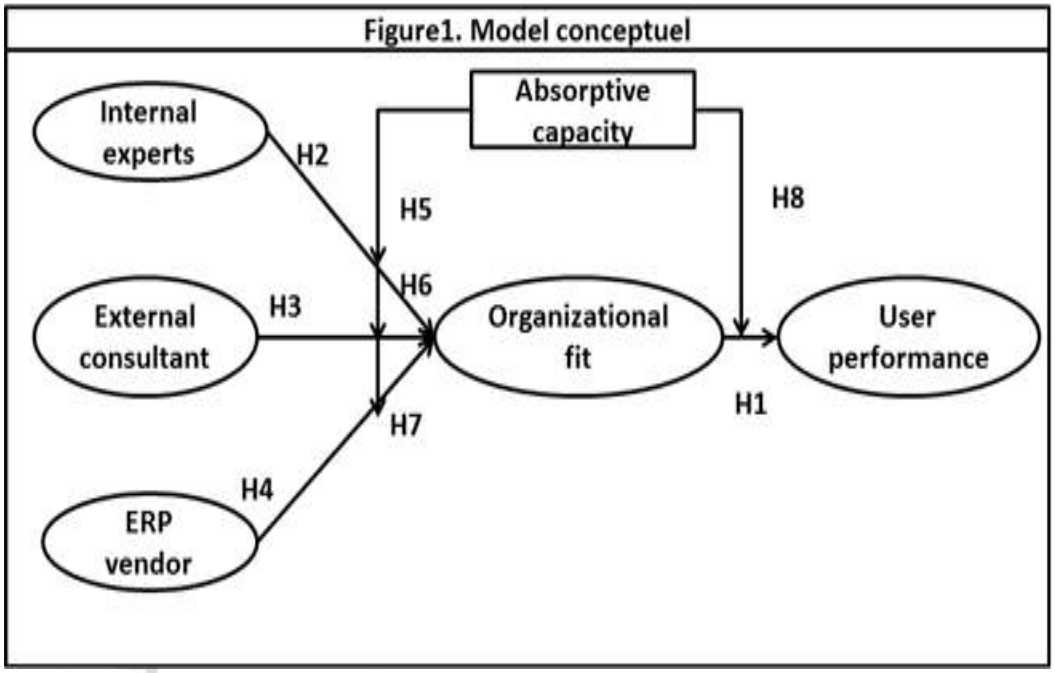
H3: The contribution of external experts is positively related to organizational fit

ERP Vendor Support and Organizational Fit

Butler (1999) put an emphasis on the strategic nature of the relationship between ERP vendor and customer. ERP vendors support is manifested through technical assistance, ongoing system maintenance, updating modules and user training (Ramayah et al 2007; Remus, 2007). Davenport (1998) considers the relationship between the ERP vendor and the company as a lifelong commitment. Even after the implementation of the ERP system, the vendor continues to provide new modules and versions that replace older versions to adapt business processes with system processes. Somers and Nelson (2004) and Ko et al. (2005) highlighted the important role played by ERP vendors throughout the ERP process. The ERP provider plays a crucial role in adjusting business processes to the system. The effort the vendor provides greatly contributes to the success of the implementation of the system and especially its adoption by users thereafter. The adaptation of the ERP system to the needs of the business is a continuous process that never stops. The contribution of the ERP vendor in organizational fit is paramount. Hence our hypothesis:

H4 : ERP vendor support is positively related to organizational fit

Figure 1 summarizes all the relationships of our research model.



ERP Absorptive Capacity

The success of the ERP project largely depends on users' ability to absorb new knowledge both at the implementation phase and the post-implementation phase (Park et al. , 2007). Absorption capacity is defined as the ability of members of the organization to assess, assimilate and apply new knowledge (Cohen and Levinthal, 1990).

Tu et al. (2006) considers the absorption capacity as the organizational mechanisms that enable the identification, communication and assimilation of internal and external knowledge. Indeed the involvement of different actors (internal experts, external experts and ERP vendor) in the effort of adjusting business processes with those of the ERP system is facilitated by the degree of user's absorptive capacity. The work of Zahra and George (2002) showed the important role of absorptive capacity in the successful implementation of the ERP system. Tang et al. (2010) stress the importance of the individual's absorption capacity in the success of the process of transferring knowledge from internal and external actors. Hence the following four hypotheses:

H5: Absorptive capacity moderates the relationship between internal competence and organizational fit of ERP.

H6: Absorptive capacity moderates the relationship between external competence and organizational fit of ERP.

H7: Absorptive capacity moderates the relationship between ERP vendors and organizational fit of ERP.

H8: Absorptive capacity moderates the relationship between organizational fit of ERP and user's performance.

Table 1. Characteristics of the sample (N = 94)

Characteristics	Frequency	Percent (%)
Respondents'experience with ERP implementation(years)	70	74.47
• **[3-5[**	24	25.53
• **>5**		
Role in project		
• Project managers	42	45
• Finance managers	32	34
• Sales manager	20	21
Type of industry		
• Food	30	32
• Electrical & Electronics	24	26
• Chemical & Pharmaceuticals	20	21
• Bank &Insurance	10	11
• Automotive	06	06
• Distribution	04	04
Software provider		
• Sage	26	28
• SAP	24	26
• Oracle applications	20	21
• JD Edwards	12	13
• Navision	12	13

Research Methodology

Our survey questionnaire was sent to ERP systems users working for companies that have already installed an ERP system for at least three years. We contacted 120 users of over 74 companies. Finally we were able to use only 94 questionnaires well filled (Table 1).

Table 2. Convergent validity criteria

	AVE	Composite Reliability	Cronbachs Alpha
ERP Vendor	0.768833	0.943266	0.924867
External Expert	0.769553	0.943421	0.925058
Internal Expert	0.885438	0.939159	0.882289
Organizational fit	0.822212	0.932765	0.891937
User performance	0.692034	0.899793	0.851923

All constructs of our model are reflexive. The items used to operationalize the constructs of our model are inspired by previous studies. The construct "user's performance" was measured by four items adapted from Gefen et al. (2005), Igbaria et al. (1997) Park et al. (2007) and Hou (2012).

Table 3. Factor and crossed factor loadings

	External Expert	Internal Expert	Organizational fit	User performance	ERP Vendor
CE1	**0.870159**	0.382253	0.499752	0.427905	0.602336
CE2	**0.862856**	0.686155	0.387781	0.304330	0.532258
CE3	**0.828718**	0.417362	0.521268	0.527343	0.627817
CE4	**0.897924**	0.367999	0.420436	0.418927	0.602757
CE5	**0.923594**	0.338210	0.523717	0.461867	0.629655
CI1	0.497125	**0.975446**	0.175502	0.175631	0.345601
CI2	0.400912	**0.905196**	0.090947	0.083703	0.273899
OF1	0.424177	0.040606	**0.909543**	0.646671	0.579583
OF2	0.549881	0.202496	**0.896989**	0.701974	0.617826
OF3	0.501774	0.168655	**0.913662**	0.718913	0.640889
PI1	0.303999	0.106526	0.573285	**0.872013**	0.337690
PI2	0.431637	0.150797	0.579963	**0.829821**	0.363090
PI3	0.551884	0.208327	0.702855	**0.797907**	0.562389
PI4	0.339248	0.031458	0.652164	**0.826117**	0.440160
VERP1	0.646831	0.305335	0.616913	0.471305	**0.885042**
VERP2	0.669356	0.371970	0.631453	0.461695	**0.867715**
VERP3	0.620937	0.312706	0.581342	0.516858	**0.863501**
VERP4	0.520028	0.213461	0.542118	0.430566	**0.871326**
VERP5	0.543013	0.263821	0.587566	0.406339	**0.896155**

These items measure the degree of improvement in employees' performance, improving labor productivity, improved task execution speed, and ease of task performance. We adopted the approach of Hong and Kim (2002), which was also adopted by Wang et al. (2007) to measure the construct Organizational fit of ERP which consists of three items. To operationalize the construct External expert support we adopted the measurement of Roberts et al. (2001) and Wang et al. (2008) (five items). The construct internal expert support has three items inspired by the work of Wang et al. (2008). Five items were selected to express the construct of ERP vendor adapted from the work of Thong et al. (1994) and Wang et al. (2008). Similarly, absorptive capacity construct has five items adopted from the work of Xu and Ma (2008). All items related to our conceptual model were measured using a 5-point Likert-type scale ranging from 1 = Strongly disagree to 5 = strongly agree.

Analysis and Results

To analyze the data collected from the surveyed ERP users, we used SPSS 18 software to purify our measurement scales. To validate the measurement scales of the different constructs, we conducted a principal component analysis (PCA). We found that item 3 of internal competence is poorly represented on the generated factorial axe (loading = 0.204). Therefore, we eliminated this item from our research model. For reduced samples, Gefen et al. (2000) recommend the method of partial least squares structural equation modeling (PLS) to test the hypotheses of a research model. The smartPLS 2.0 software (Ringle et al., 2005) was chosen. The analytical process consists of two phases: a measurement model and a structural model.

The Measurement Model

The measurement model consisted of checking three criteria: construct reliability, convergent validity and discriminant validity (Barclay et al., 1995). Table 2 presents the results of two tests measuring Construct reliability: composite reliability (CR) and Crombach's alpha. It is clear that all values of CR range from 0.899 to 0.943 and Cronbach α ranges from 0.851 to 0.925, exceeding the 0.7 threshold recommended by Straub (1989). The construct reliability of our measurement scales is verified. Fornell & Larker's (1981) evaluate convergent validity through two criteria: factor loadings and Average Variance Extracted (AVE). Factor loadings of all items are significant and exceed 0.7 (Table 3).

Table 4. Correlations between constructs and discriminant validity

	ERP Vendor	External Expert	Internal Expert	Organizational fit	User performance
ERP Vendor	**0.87683123**				
External Expert	0.687392	**0.8772417**			
Internal Expert	0.337507	0.487967	**0.94097715**		
Organizational fit	0.676888	0.544388	0.154121	**0.90675906**	
User performance	0.522169	0.496816	0.151611	0.761424	**0.83188581**

The AVE of all constructs ranges from 0.692 to 0.885 and exceeds the required threshold of 0.5 (table2). We checked discriminant validity using the square root of the AVE of each construct (Fornell and Larker, 1981). The square root of the AVE for each construct exceeds the inter correlations with other constructs (Table 4). Therefore, discriminant validity of our model is verified too. In light of all of these tests, we can conclude that the psychometric characteristics of our model are therefore satisfactory.

The Structural Model

To test our hypotheses, we conducted a bootstrapping analysis. The analysis was performed in two steps: we test the relationships between the different constructs without the moderator variable. Then, we check the effect of the introduction of the moderator variable in the model. Three assessment criteria are often used to evaluate correlation between the constructs, namely: R^2 and standardized correlation coefficients (path - coef). $R^2 = 0.487$ (sub model where the dependent variable is OF and IC , EC and ERP vendor are independents variables), which means that 48.7 % of the variance of organizational fit was explained by the retained independent variables in our model. Indeed, the dependent variable (OF) is explained mainly by the ERP vendor ($\beta = 0.574$, $t = 5.603$) and external competence ($\beta = 0.222$, $t = 2.052$). We found that the t - values exceed the required standard ($t > 1.96$) indicating that these relationships are significant (Tab 5). However, internal competence ($\beta = -0.148$, $t = 1.729$) did not affect OF . The second sub -model (the dependent variable is UP and the independent variable is OF) had an $R^2 = 0.580$ which means that 58 % of total variance of user performance is explained by OF (Figure 2). The results support H1, H3 , H4, however they fail to support H2 .

The introduction of the moderator variable "absorptive capacity" in the initial model (Figure 3) shows a significant improvement in R^2 (submodel: OF → UP). The moderating effect is determined by $f^2 = \frac{R^2i - R^2e}{1 - R^2i}$ (Hair *et al*, 2013) where R^2i is the correlation with the inclusion of latent variable and R^2e is the correlation excluding latent variable. In our study, f^2 is 10.24%, indicating a fairly significant effect on the AC variable and the relationship OF and UP. These results confirm only H8 and invalidate hypotheses H5, H6 and H7. Table 5 summarizes the results of tests on all the variables in our research model.

Table 5. Construct structural model

Hypothèses	Relationship	Path coefficient	t- value	Supported
H1	OF → UP	0.761	**16381**	Yes
H2	IC → OF	-0148	1.729	No
H3	EC → OF	0.222	**2.052**	Yes
H4	ERP vendor → OF	0.574	**5.603**	Yes
H5	IC → OF modereted by CA	0.141	1.341	No
H6	EC → OF modereted by CA	0.167	1.247	No
H7	ERP vendor → OF modereted by CA	-0.059	0.449	No
H8	OF → UP modereted by CA	0.132	**2.248**	Yes

Discussion and Conclusion

The objective of this study is to examine the contribution of internal and external experts in organizational adjustment effort and its effect on ERP systems user's performance. Then, we checked the moderating role of absorptive capacity on the overall relationship identified in our model. The results of our survey, conducted on ERP systems users working in Tunisian companies who have used this kind of software, revealed that user performance is largely determined by the quality of the adjustment made between the company's process and the ERP system. These results confirm the findings of Yen and Sheu (2004). The adjustment effort depends itself on the input of external experts (Consultants and ERP Vendors). Indeed Tunisian firms, like most companies around the world, lack internal expertise (Ifinedo, 2011). Therefore, implementation of the process is substantially performed by the first ERP vendors. Incidentally, consultants contribute to organizational fit. These results confirm the findings of Ko et al.(2005), Wang et al, (2006).

It is important to note that successful adjustment of business processes with ERP system processes contributes significantly to improving work performance. An ERP system that meets the needs of work contributes to improving work performance because all the problems were solved with competent consultants and ERP vendors. It is important to note that in addition to good organizational fit, users' ERP capacity affects the use of the system and allows for a better use of all its features. In addition, the capacity to absorb new technologies such as ERP systems greatly contributes to the success of the ERP system, expressed in terms of user performance. Therefore, we avoid configuration errors, customization and conflicts between actors involved in the implementation process (Pan et al., 2001).

Holsapple and Sena (2005) have demonstrated that the implementation of an ERP system often needs customizing some solutions in order to bring the system to its specific markets, structure and operational requirements. In the Tunisian context, absorptive capacity of the ERP system intervenes only at the relationship between OF and UP. Taking into account any changes that may be caused by the implementation of the ERP system, managers must be sufficiently aware of the magnitude of these changes and therefore take precautions to avoid unpleasant surprises and thus increase the chances of ERP project's success. Most often reengineering internal processes is necessary to approximate those provided by the ERP system (Soh et al., 2000), which implies a change in methods and work habits (Umble et al., 2003). This study highlights the place of external experts in the process of implementing an ERP system. In fact, the ERP project should be considered as a specific project that needs collaboration, cooperation and involvement of all actors in order to avoid resistance to change even if they do not master these ERP systems. Managers should not consider the ERP project as a simple implementation operation and a new computer application, but rather as a large-scale project that needs the involvement of all internal and external actors. Managers are also, required to properly analyze the ability of the company to properly conduct the implementation of the ERP system. To this end, we should seek external expertise that can make the best use of the potential of ERP system. Therefore, ERP vendors are required to provide systems that take into account the specificities of the sector and the particularities of each company. Managers should be also aware of the role of the consultant during the implementation phase especially in the absence

of internal competence. The consultant with his knowledge and experience is able to help customers acquire the necessary training on the ERP system. It is therefore essential to choose competent consultants who can integrate internal business processes and characteristics of the field in the new ERP system (Wang et al. , 2006). Although Tunisian companies do not have the culture of using external consultants. They should choose the external consultant before choosing the ERP vendor. It is true that Tunisian firms lack the internal skills to master ERP systems; however the presence of a team or a committee to ensure coordination and monitoring of the project is essential. Even if it is not able to contribute directly to the reengineering operation, it is able to facilitate the work of external experts. In the Tunisian context, the role of the external consultant is almost dominated by the ERP vendor. To attract customers, ERP vendors should make available experts that ensure the transition from the old to the new system. The implementation of an ERP system certainly improves user performance but also increases its dependence on suppliers. Managers should therefore remain cautious and pay more attention to staff training on this kind of field in order to accompany external experts in their adaptation of the system and its updating. This study has some limitations. The first limitation is that all the concepts of our model were measured through the perception of users. The results should therefore be taken with caution. A second limitation is the survey sample which includes users in companies operating in different sectors. In addition, the companies in our sample use different ERP systems.

Appendix

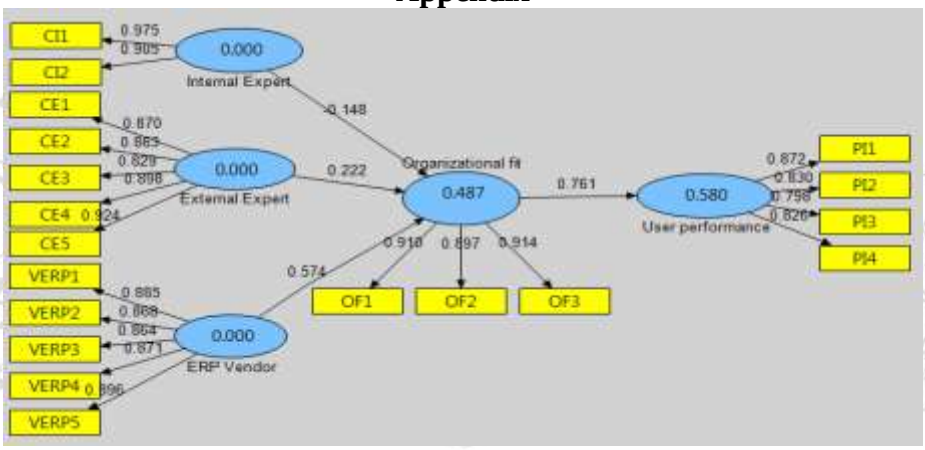


Figure 2: PLS test result of proposed model (without moderating effect)

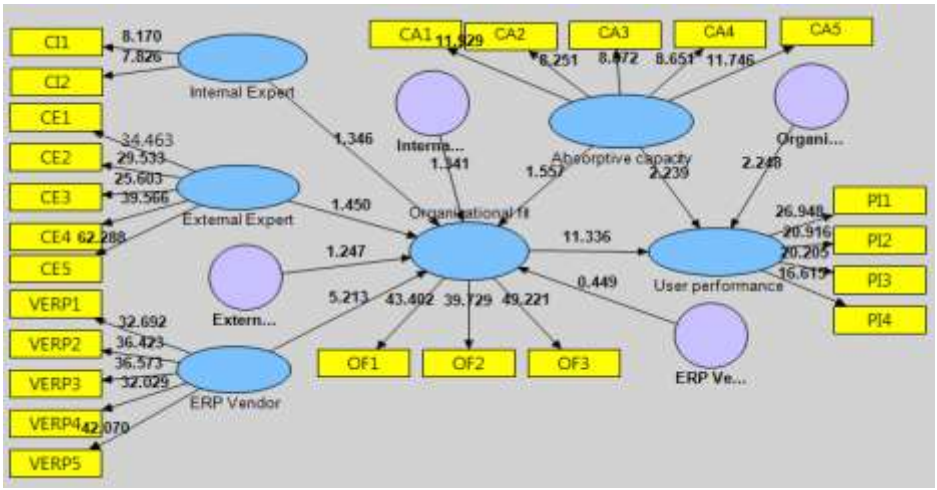


Figure 3: PLS test result of proposed model (with moderating effect)

References

Al-Mashari M., Al-Mudimigh A., Zairi M. (2003). Enterprise resource planning: a taxonomy of critical factors, European Journal of Operational Research, 146 (2), 352– 364.

Barclay D., Higgins C., Thompson R. (1995). The Partial Least Squares (PLS) approach to causal modeling: personal computer adoption and use as an illustration, Technology Studies, 2 (2), 285–309.

Ben moussa N. (2013). Determinants of Post Implementation Success of ERP In Tunisian Companies: An Empirical Study of The Moderating Role of The Technical Fit, December 2013, International Review of Management and Business Research, 2 (4), 1101-1112.

Bingi P., Sharma M.K., Godla J.K. (1999). Critical issues affecting an ERP implementation, Information Systems Management, 16 (3), 7– 14.

Bradford M., Florin J. (2003). Examining the role of innovation diffusion factors on the implementation success of enterprise resource planning systems, International Journal of Accounting Information Systems, 4, 205–225.

Butler J. (1999). Risk management and skills needed in a packaged software environment, Information Systems Management, 15–20.

Chang Hsiu-Hua, Chou Huey-Wen and Yin Chun-Po, "ERP Post-Implementation Learning, ERP Usage And Individual Performance Impact", 2011, PACIS : Proceedings Pacific Asia Conference on Information Systems .

Chang Jamie Y.T., Wang Eric T.G., Jiang James J., Klein Gary (2013). Controlling ERP consultants: Client and provider practices. The Journal of Systems and Software, 86, 1453– 1461.

Cohen, W.M., Levinthal, D.A.(1990). Absorptive capacity: a new perspective on learning and innovation. Administrative Science Quarterly 35, 128–152.

Davenport T. (1998). Putting the enterprise into the enterprise system, Harvard Business Review ,76 (4), 121–132 .

Davenport, T. H. (2000). Mission critical: Realizing the promise of enterprise systems. Boston, MA: Harvard Business School Press. Cited in Wang et al, (2007). Improving enterprise resource planning (ERP) fit to organizational process through knowledge transfer. International Journal of Information Management (27), 200–212.

Fornell, C., Larker, D.F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error, *Journal of Marketing Research*, 18, 39-50.

Gefen D., E. Karahanna, D.W. Straub, A. Ragowsky. (2005). A multilevel approach to measuring the benefits of an ERP system in manufacturing firms, Information Systems Management, 18–25.

Gefen, D., Straub, D.W. (2000), and Boudreau, M.-C. "Structural Equation Modeling and Regression: Guidelines for Research Practice," *Communications of the Association for Information Systems* (4:7), 1-77.

Hair, J.F., Ringle, C.M., Sarstedt, M. (2013). Partial least squares structural equation modeling: rigorous applications, better results and higher acceptance. Long Range Planning 46 (1/2), 1-12.

Holsapple C.W., Sena M.P. (2005). ERP plans and decision-support benefits, Decision Support Systems 38 (4), 575–590.

Hong K.K., Kim Y.G. (2002). The critical success factors for ERP implementation: an organizational fit perspective, Information and Management, 40, 25–40.

Hou Chung-Kuang (2012). Examining the effect of user satisfaction on system usage and individual performance with business intelligence systems: An empirical study of Taiwan's electronics industry, International Journal of Information Management 32, 560–573.

Ifinedo, P.(2011). Examining the influences of external expertise and in-house com-puter/IT knowledge on ERP system success. Journal of Systems and Software 84 (12), 2065–2078.

Igbaria M., Zinatelli N., Cragg P., Cavaye A. (1997). Personal computing acceptance factors in small firms: a structural equation model, MIS Quarterly, 279–305.

Ko D., Kirsch J.L., King W.R. (2005). Antecedents of knowledge transfer from consultants to clients in enterprise system implementations, MIS Quarterly 29 (1), 59–85.

Kumar V., Maheshwari B., Kumar U. (2003). An investigation of critical management issues in ERP implementation: empirical evidence from Canadian organizations, Technovation, 23, 793–807.

McGivern C. (1983). Some facets of the relationship between consultants and clients in organizations, Journal of Management Studies 20 (3), 367– 386.

Motwania J., Mirchandani D., Madan M., Gunasekaran A. (2002). Successful implementation of ERP projects: evidence from two case studies, International Journal of Production Economics 75, 83–96.

Pan, S. L., Newell, S., Huang, J. C., & Cheung, A. W. K. (2001). Knowledge integration as a key problem in an ERP implementation. Twenty-second international conference on information systems, 321–327.

Park Jong-Hun, Suh Hyun-Ju, Yang Hee-Dong. (2007).Perceived absorptive capacity of individual users in performance of Enterprise Resource Planning (ERP) usage: The case for Korean firms, Information & Management, 44, , 300–312

Ramayah, T., Roy, M.H., Arokiasamy, S., Zbib, I., Ahmed, Z.U. (2007). Critical success factors for successful implementation of enterprise resource planning systems in manufacturing organizations. International Journal of Business Information Systems, 2 (3), 276–297.

Remus, U. (2007). Critical success factors for implementing enterprise portals: a comparison with ERP implementations. Business Process Management Journal, 13 (4), 538–552.

Ringle C.M., Wende S., Will A. (2005). SmartPLS 2.0 (beta), Hamburg: http://www.smartpls.de. University of Hambourg, Germany.

Roberts, T. L., Leigh, W., Purvis, R. L., & Parzinger, M. J. (2001). Utilizing knowledge links in the implementation of system development methodologies. Information and Software Technology, 43, 635–640.

Roberts, T. L., Leigh, W., Purvis, R. L., & Parzinger, M. J. (2001). Utilizing knowledge links in the implementation of system development methodologies. Information and Software Technology, 43, 635–640.

Soh C., Sia S.K., Tay-Yap J. (2000). Cultural fits and misfits: is ERP a universal solution, Communications of the ACM 43 (4), 47–51.Availeble in : http://www.terry.uga.edu/~dchen/Mist4610/ERPCultureFits.pdf

Somers T.M., Nelson K.G. (2004). A taxonomy of players and activities across the ERP project life cycle, Information & Management 41 (3), 257–278.

Straub, D. (1989). Validating instruments in MIS research, MIS Quarterly, 13(2), 147-169.

Swan J., Newell S., Robertson M. (1999). The illusion of best practice in information systems for operating management, European Journal of Information Systems, 8 (4) 284–293.

Tang, F., Mu, J., & MacLachlan, D. L. (2010). Disseminative capacity, organizational structure and knowledge transfer. *Expert Systems with Applications, 37*, 1586–1593.

Thong J.Y.L. (2001), Resource constraints and information systems implementation in Singaporean small businesses, Omega 29 (2), 143– 156.

Thong, J.Y.L., Yap, C.-S., Raman, K.S. (1994). Engagement of external expertise in information systems implementation. Journal of Management Information Systems, 11 (2), 209–231.

Tsai Wen-Hsien, Shaw Michael J., Fan Yi-Wen, Liu Jau-Yang, Lee Kuen-Chang, Chen Hui-Chiao (2011).An empirical investigation of the impacts of internal/external facilitators on the project success of ERP: A structural equation model. Decision Support Systems 50, 480–490

Tu, Q., Vonderembse, M. A., Ragu-Nathan, T., & Sharkey, T. W. (2006). Absorptive capacity: Enhancing the assimilation of time-based manufacturing practices. *Journal of Operations Management, 24*, 692–710.

Umble E.J., Haft R.R., Umble M.M. (2003), Enterprise resource planning: implementation procedures and critical success factors, European Journal of Operational Research 146 (2), 241–257.

Umble, E. J., & Umble, M. M. (2002). Avoiding ERP implementation failure. Industrial Management (Jan/Feb), 24–33.

Wang Eric T.G., Chen Jessica H.F (2006). Effects of internal support and consultant quality on the consulting process and ERP system quality, Decision Support Systems, 42, 1029–1041.

Wang Eric T.G., Lin Cathy Chia-Lin, Jiang James J., Klein Gary (2007). Improving enterprise resource planning (ERP) fit to organizational process through knowledge transfer. International Journal of Information Management (27), 200–212.

Wang Eric T.G., Shih Sheng-Pao, Jiang James J., Klein Gary (2008). The consistency among facilitating factors and ERP implementation success: A holistic view of fit, The Journal of Systems and Software, 81, 1609–1621.

Xu Qing, Ma Qingguo (2008). Determinants of ERP implementation knowledge transfer Information & Management 45 528–539.

Yen H.R., Sheu C., (2004). An exploratory study, International Journal of Production Economics, 92 (3), 207–220.

Zahra S.A., George G. (2002).The net-enabled business innovation cycle and the evolution of dynamic capabilities, Information Systems Research 13 (2), 147–150.

Zhang, Z., Lee, M.K.O., Huang, P., Zhang, L., Huang, X., (2005). A framework of ERP systems implementation success in China: an empirical study. International Journal of Production Economics 98 (1), 56–80.