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ERPS Implementation From User's Perspective in Lebanon

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Abstract: Enterprise resource planning system (ERPS) acceptance is one of the key challenges of enterprises in internationalmarkets. This paper provides an enhancement of the Technology acceptance model (TAM) and explores it objectively in an enterprise resource planning (ERP) implementation context. Over the course of two decades and hundreds of studies, authors have developed models that analyze user attitudes of accepting ERPS implementation in enterprises. The aim of this paper is to construct a model to study the effect of perceived ease of use (PEOU), perceived usefulness (PU), and top management support (TMS) and system competence (SC) on the users' attitudes of accepting the ERPS. In addition, this paper will discuss the benefits acquainted from ERPS adoption. Prior studies has identified models that showed the effect of PU and PEOU on users' attitudes but none included the TMS and SC as additional variables in structuring their models. The study followed a quantitative methodology through conducting a questionnaire. 1425 questionnaires were distributed to users at different organizations however the only valid number received was 475 questionnaires used in the study. All the users were asked about their first experience in ERPS implementation. The study shows that there is a positive significant impact of TMS, PU and SC on user's acceptance attitudes however PU has a weak positive influence. This study contributes to enhancing the understanding of ERPS implementation in the Lebanese industry from user perspective since it is the first study conducted to investigate the determinants of users' acceptance of ERPS. Moreover, the paper contributes to enhance the decision makers understanding of ERPS adoption benefits in the Lebanese context.

Keywords: Enterprise Resource Planning,Adoption, Implementation, Benefits, Technology Acceptance Model, Top Management Support, User Attitude, System Competency,

Introduction

Over the last two decades, most businesses have adopted ERP contexts since the use of ERPS is noticed as a critical indicator for strategic advantage. Due to growing competitive environment and an increasingly innovative business market, businesses around the globe have chosen to embrace information and communication technologies to strengthen their business processes and increase their operational efficiencies (Basoglu et al., 2007; Chang et al., 2008; Soja & Weistroffer, 2016). Organizations are rapidly embracing and investing enormous capital in order to achieve major benefits from digitized innovations that support its business processes efficiently. Several businesses consider ERP more than just IT approaches to promote and optimize its current operations; rather, those structures have a substantial effect on corporate activities in terms of how they coordinate, govern, manage and improve business processes (Yan et al., 2019). In fact, ERP accounts for a large amount of investment in enterprises. For all organizations who have finalized ERP implementation, 62% have executed their plans above or below their initial budget (Panorama Consulting Group, 2020).Different organizations from diverse sectors are expressing an interest in implementing ERPS to benefit from the broad variety of competitive advantages provided by these technologies. Particularly, ERP has been considered as an advanced and common information technology solution adopted in organizations, which requires a high degree of investment, funding, awareness and dedication (Al-Mashari, 2003; Ali & Miller, 2017). Researches have demonstrated that enterprise platforms can guide corporations toward greater sustainability, can help to accomplish innovative business goals, can extend and enhance employee careers, can improve business in corporations, and can strengthen organizational learning in addition to other benefits (Eid & Abbas, 2017; Hawking et al., 2004).

Information systems (IS) studies have indeed started to know the significance of key players in modeling and paving the way for the ERP adoption plan (McLaren & Jariri, 2012). It is important to be able to recognize the context of almost any information technology initiative in order to understand the specifications and how the project development team can materialize. Initial teamwork group formation has been addressed as core aspect in ERP adoption. Project groups can be participatory, equitable or prejudice toward various internal or external stakeholder parties (Nah et al., 2001; Umble et al., 2003). Successful IS preparation should include wide involvement and constructive discussion in order to prevent misunderstanding intensification during

execution (Muscatello & Injazz, 2008). Businesses keep struggling with the huge amount of funding required for successful ERP acceptance and implementation. ERP applications are cross-functional system implementations with high social and technical sophistication; thus call for human cognitive determinants , investment phases and deployment techniques (Haddara & Elragal, 2013).

ERP is a complex system requiring high costs and threats. Although the introduction of ERP impacts the whole enterprise (mechanism, individuals and beliefs), there are a range of difficulties that corporations face when adopting ERPS. Organizations increase their investment in sophisticated information technology such as ERPS. In spite of reported advantages, ERPS effective implementation rate is low (Chang et al., 2008; Dezdar, 2017). A profound examination at the nature of the challenges depicted suggests that the major problems of ERP implementation requires the consideration of technical aspects as well as the behavior aspects (Maditinos et al., 2011). Organizations must understand the ERPS implementation from the user's point of view in order to coach their employees to encounter various difficulties and figure out how to make proper use of technology to achieve realizable benefits. This research highlights the effects of external variables on the user's acceptance attitude towards implementing ERPS.

Literature review

ERP User Acceptance

ERPS are interconnected and extensive business systems that optimize central operations such as production, personnel, financing and operations management. Fragmented information is incorporated into such frameworks to assist the decision-making mechanism (Razmi et al., 2009). ERPS adoption can bring a range of benefits to organizations. Yet in order to reap the rewards you need the team to accept and welcome emerging technologies.

The implementation of advancements in technology was related to the attainment of a strategic advantage (Porter, 1985). However, the large-scale presence of capital and people in the ERPS makes the decision to implement ERP one of the most important strategic decisions for organizations of all sizes (Alaskari et al., 2019). The decision has a direct effect on the realization of the intended advantages and the competitive advantages of the ERP project (Ram et al., 2014). Considerable research attempts have been made to establish the antecedent reasons for the individual and organizational acceptance of the ERP (Deep et al., 2008). The scale, structure, experience and managerial skills of the organization have a direct effect on adoption. Organizational readiness has also been described as an antecedent to technological development, and having sufficient resilience to introduce and use the ERPS was shown to be vital to the success of adoption (Haddara & Elragal, 2015). A number of scholars have defined the aspects that should be measured in order to evaluate organizational readiness at the point of implementation (Harun & Mansor, 2019). The competitive essence of ERP's adoption necessarily involves an evaluation of benefits and costs (Zeng et al., 2012). Many scholars believe that the potential benefits of ERP's adoption have a positive effect on the purpose of implementing ERP and the benefits that are commonly desired include speed of operations and profitability (Shang & Seddon, 2002). Other scholars proved an important positive effect of the perceived value of ERP on the user implementation and use of ERPS (Bueno & Salmeron, 2008a; Kwak et al., 2012; Rajan & Baral, 2015).

It is worth to emphasize that decisions relating to the execution of the ERPS are handled by upper management without focusing on the overall picture where ERPS users are endorsed only in the further stages of implementation, like the training process (Glover et al., 1999; Wang & Chen, 2006). It thus takes us to ask; do end users possess identical view with top management in the execution of the ERPS? Many studies have revealed that it is not really entirely true; due to the lack of engagement in implementation, end users typically possess varying views regarding the system need (Lim et al., 2005).

In addition, end-users are typically cautious from the recently introduced complicated ERPS, that is embodied either in refusal or reluctance to accept (Gyampah, 2004). Scholars regard these user associated considerations as key hazard causes for the execution of ERPS, leaving alone the composite nature of systems (Bueno & Salmeron, 2008b; Luo & Strong, 2004). Even though the project is implemented within time frame and cost budgeted, the system will be inconvenient as long as the end users consider ERPS worthless in performing their tasks or requiring them much time to know how to use. The premise of enhancing user acceptance is becoming more challenging in the text of ERPS implementation. One justification can be due to the conservative design of the system, irrespective of the field, which means that outdated legacy systems are not immediately abandoned until individuals are definitely aware of the need for new platforms (Keegan & Turner, 2002). Moreover, considering that the most users are not IT specialists might keep them stay at a primitive phase in project cycle implementation (Chung et al., 2008). The insufficient awareness of their technical potential and the lack of their understanding to the best practices of ERPS keep it very hard for them to engage in such a system (Tatari et al., 2007). In a deeply fragmented project environment, various stakeholders from different backgrounds are committed to assume different roles as the project progresses

(Somers & Nelson, 2004). It is recommended that a significant degree of internal and external coordination is needed for overhauling the data stream and communication. There must therefore be a new model which integrates feedback from ERPS users who trust their role in resolving different levels of acceptance resistance across end-users (Bagozzi, 2007).

Technology Acceptance Model

TAM theorizes two philosophies: perceived usefulness (PU) and perceived ease of use (PEOU) (Davis, 1989); they represent major importance for technology accepting behavior PU is the extent to which an individual considers that adopting a specific technology will improve the efficiency of his or her work. On the other hand, PEOU corresponds to the degree to which an individual believes that the system usage would be smooth (Davis et al., 1989). The two core theories in TAM note that PU and PEOU have a beneficial impact on the individual's intention to the need for modern technologies; consequently this affects the user's will to embrace it (Davis, 1989). The intention is definitely and significantly associated to the actual use. TAM even anticipates that PEOU affects PU; effort can be saved if PEOU can be enhanced, allowing the user to do complete more tasks while spending the same determination (Davis et al., 1989).

The TAM anticipates the use and adoption of information technology or information system by users (Mathieson, 1991; Svendsen et al., 2013; Wallace & Sheetz, 2014). The main objective of TAM is to afford a framework for mapping the effect of external influences on individual beliefs, behaviors and intentions. TAM and its enhancements have really been extended to a wide range of technologies(Cheung & Vogel, 2013; Davis, 1989; Davis et al., 1989; Dillon, 2001; Isaac et al., 2018) . Through evaluating previous ERP research studies on TAM, we noticed that many authors have studied the adoption of ERP by end users (Huang & Yasuda, 2016; Sternad & Bobek, 2013; Venkatesh & Bala, 2008). They looked at various ERP usage problems and concentrated on a limited number of causes that have an effect on ERP adoption at varying phases of the ERPS life-cycle (Bueno & Salmeron, 2008b; Elkhani et al., 2014; Keong et al., 2012; Matende & Ogao, 2013; Mitra & Mishra, 2016; Mouakket, 2012; Nah et al., 2001; Regmi et al., 2019; Sternad & Bobek, 2013; Venkatesh & Bala, 2008; Zabukovsek & Bobek, 2013). The essence of TAM is the behavioral intention to use, however this is not an acceptable indicator if the use is enforced by the corporation (Aini, 2018; Habjan et al., 2016; Koksalmis & Damar, 2019). If individuals adopt the framework and use to be a daily practice, there is no need to analyze the behavior intention; thus, the behavior purpose is omitted from the proposed testing model. PEOU impacts PU yet both aspects impact user attitude. The issue with TAM research is that many studies explore a narrow range of external influences which affect user attitude (AT). In the background of ERP frameworks, there are a variety of external influences that can affect the adoption of users. Therefore, the conceptual frameworks of influential factors must be explored if we desire to realize user attitude in the ERPS environments. Building the intended model – PEOU, PU, and AT for simple TAM of ERPS are affected by external influences as follows (Sternad & Bobek, 2012):

- Personal characteristics and information literacy (PCIL).
- System and technological characteristics (STC).
- Organizational-process characteristics (OPC).

The above mentioned factors include variables that affects its impact as shown in Table 1.

Table1: External Influences Variables

CIL P	PCIL1: Computer Experience(Calisir et al., 2009)
	PCIL2: Computer anxiety (Venkatesh; Viaswanath & Davis; Fred D., 2000)
	PCIL3: User Innovativeness (Agarwal & Prasad, 1999)
	PCIL4: Self Efficacy (Shih & Huang, 2009)
TC S	STC1: ERP data quality (Gattiker & Goodhue, 2005)
	STC2: ERPS Functionality (Bueno & Salmeron, 2008b)
	STC3: User Manuals (Chou & Chen, 2009)
	STC4: ERPS performance (Amoako-Gyampah & Salam, 2004)
PC O	OPC1: Organization culture (Aladwani, 2001)
	OPC2: Business processes fit (Nah et al., 2004)
	OPC3: Training (Bueno & Salmeron, 2008b)
	OPC4: Communication (Amoako-Gyampah, 2007)
	OPC5: Support (Lee et al., 2010)

Source: Authors' own research

Cognitive factors in addition to PU and PEOU can become important in ERP implementations (Nah et al., 2004). In the specific context of the ERP, organizations should follow the corporate practices of the adopted ERP framework. Considering that one of ERPS benefits is that it provides companies a strategy consistent with valuable corporate practices (Jha et al., 2008), it is not always considered as the best alternative for all ERP users. The underlying business rules behind the procedures leave them with no alternative but to pursue the guidelines implemented into the ERPS (Sternad & Bobek, 2013). As a result, organizations incorporate ERPS to promote internal tasks rather than fit users' personal interests or behaviors. On the basis of this comprehension, we interpret system competence (SC) specifically as the efficiency of the ERPS for working environment and not for individual beliefs or working patterns (Sun et al., 2009). Within the scope of ERP utilization, the interaction between SC and PU is predicted, i.e. the more proficient the ERPS functions, the more convenient is for ERP users. SC has a clear significant impact on AT, not only an indirect effect by PU; therefore, ERPS users will be optimistic towards the system usage if they realize that it is supporting their day to day activities (Sternad & Bobek, 2013). TAM was initially introduced in the context of individual use and neglected the effect of corporate influences on the information system usage or its determinants. Business users utilize ERPS to execute particular jobs and enhance organizational work; thus, it is necessary to analyze the organizational role in ERP use. ERPS must be used by organizational staff where the activities of one user specific tasks are associated or integrated with other users' jobs. To summarize, users of ERPS usually do not have the decision whether to use the ERPS or not irrespective of their beliefs and attitudes. Companies adopting ERPS strive to achieve successful implementation systems to realize the expected benefits and make effective use of these systems. It is also essential for organizations that users of ERP go beyond the basics and use the expanded competencies of the ERPS. While the use is compulsory, the validity of content and contextualized degree in this paper must demonstrate the user choice and critical use behavior.

ERP Benefits

Chen & Yin(2010)looked into whether ERP provides potential advantages and found that ERP facilitates changes in user operations; this diversity manifest themselves within the first year after implementation, and, in the case of ERP users, operations are superior to those of non-users regardless of the timing of ERP implementation. However, their analytical study is limited to public listed corporations alone and does not take into account the private sector. Furthermore, the examined time of ERP deployment was also limited; it took place in a span of two years after installation was finished. The third constraint was the logistics vendor's fulfillment capacity, which was solely dependent on their capability. In this study, Chen & Liu (2009)explored the link between ERP implementation purposes and the decision - making support advantages obtained in Chinese firms, and they concluded that the installation of ERP and gaining more decision support advantages was associated. The four intangible variables are satisfaction of the user, system performance, decision-support performance, and organizational performance. The scholars argue that the difficulties in measuring intangible benefits resulted in the decision-support benefit replacing a substitute variable: user satisfaction, system performance, decision-support performance, and organizational performance. To put it the other way, they conducted merely exploratory study on ERP advantages. The ERP deployment roadmap designed byEsteves(2009)specifically applies to companies that have a small or medium-sized business structure. The findings of his research provided a better knowledge of the business advantages of ERPS and of the ERP stakeholder perspectives on ERP. His results lead to the conclusion that ERP use occurs in two stages, a significant one being the time to reap the advantages of auditing ERP.Furthermore, the research revealed that achieving ERP advantages is tied to ERP's value realization dimensions, and business managers should consider ERP's value realization as a cycle of incremental value development. Shuai et al. (2007)explored the link between ERP deployment and supply chain management issues. The ERP solution that was used in their research was shown to be capable of optimizing business processes in order to meet supply chain performance goals. ERP system's features enable the firm to use effective judgments such as improved labor planning and dramatic improvement of on time delivery. According to the findings of Spathis & Ananiadis(2005), an improvement in the ERPS flexibility results in better decision-making and better data providing at a big public university in Greece. With the introduction of ERPS, management benefits are found to be prior to operational, with IT infrastructure afterwards. In contrast toShang & Seddon(2002)these ordering of benefits are somewhat distinct. ERP implementation results were compared with traditional IS especially in accounting procedures(Spathis & Constantinides, 2004).To answer the question of why ERP implementations are favored, he describes the basic incentives for adoption, including integration of apps, real-time information, and with respect to decisions, specific information. Empirical evidence shows that as well as implementing an internal audit function, the use of non-financial performance indicators, and profitability analysis at segment/product level, there have been additional changes to the accounting processes, including the implementation of a functional audit team and the use of non-financial performance indicators. Ali & Miller(2017)believes that ERP

advantages vary greatly between industries, especially with regard to intangible advantages. Tangible benefits, on the other hand, tend to differ throughout industries. In order to provide ERP advantages, IT investment has to be accompanied with precise measures and apportionment of tasks. This statement suggests that in order to get maximum advantages, IT initiatives should be part of a broader corporate strategy and vision, and be driven by that plan. Shang & Seddon(2002)offered a framework for business systems benefits evaluation, which consists of five steps. ERP advantages are studied from a longitudinal perspective of a sample of four utility firms in Australia with regard to many dimensions, including as operational, managerial, strategic, IT infrastructure, and organizational. They argue that advantages are achieved over time, and that their magnitude varies across dimensions inside various core processes inside various businesses. Murphy & Simon(2002)constructed an ERP framework incorporating intangible benefits valuations and illustrating how intangible metrics may be used to aid cost-benefit analysis.

Methodology

None of researches has been made to examine the user's perspective of accepting or adopting a new technology such as ERP implementation in the Lebanese context. Through ignoring the users' viewpoints of the system, this will probable result in their per-functional use of the system and thus could prevent enterprises from delivering the expected benefits of the highly expensive ERPS investment projects. Moreover, examining only the traditional pattern industries makes difficult to create methodological validation across a wide spectrum of organizational contexts. Despite the massive body of literature on ERPS, we believe that there is a substantial gap in current literature.In summarizing previous ERP literature research on TAM, we found that multiple researchers have studied ERP acceptance by users (Amoako-Gyampah & Salam, 2004; Bueno & Salmeron, 2008b; Huang & Yasuda, 2016; Koksalmis & Damar, 2019; Nah et al., 2004; Sun et al., 2009); however they use a limited number of external influential factors in their studies. We therefore set users from diverse industries and organizations as our sample of interest and our aim is to explain how different practices are linked to the cognitive perception of end-users, and eventually, to their attitude to adopt in the ERPS context. By following the above procedure we are expanding TAM model to investigate relationships since it is the most applicable to this study, and perhaps the most credible from a theoretical perspective (Davis, 1989).

Research showed that the tangible advantages that ERP adoption may provide would differ from business to business, but the literature does agree on common benefits that all companies may reap with an ERPS. Table 2 shows the benefits mentioned by different authors and their respective journals and methodology used.

Table2: ERP Common Benefits from Literature

Author (s)	Benefits
Shang &Seddon (2002)	Organization Learning
Shang &Seddon (2002)	Improvement in business processes
Beheshti (2006)	IT system standardizationIntegration
Spathis&Constantinides(2003)	Improved financial reporting
Hayes et al. (2001)	Increase in ROI and ROA
Shahat and Uddin (2012)	Improved supply chain performance
Hawking et al. (2004)	Reduction in production cost
Olson et al. (2013)	Improved planning and control
Shang &Seddon (2002)	Technology upgradeAttain, expand & extend enterprise systems
Hasan et al. (2011)	Centralized information
Hendrick et al. (2007)	Increased profits

Source: (Ali & Miller, 2017)

A validated questionnaire was distributed to give participants the ability to share their beliefs and stay anonymous. This motivates the respondents to be transparent and to provide their real opinions. In addition, the use of organized questionnaires allows the author to evaluate the data obtained using SPSS 22. Respondents should have witnessed an ERP implementation in their work to be eligible for the study. The respondents include ERPS users from different industries in manufacturing, banking, insurance, public sector, telecommunication, retail and financial institutions. Likert scale 1 to 7 (1 = Strongly Disagree, 2 = Agree, 3 = Somewhat Agree, 4 = Neutral, 5 = Somewhat Disagree, 6 = Disagree, 7 = Strongly Disagree) was followed as a measurement scale for questions where respondents specify their choice correlated with their experience in ERPS adoption. The questionnaire was distributed to 1,425 users; 514 responses were received where 39 of them miss some information so they were excluded from the analysis. Thus the analysis was made based on 475 responses. The hypotheses of the suggested model - PU, PEOU, SC, AT, and TMS (total management support)

are influenced by a set of external factors. These external factors are categorized according to Table 1. Moreover, the questionnaire questions related to ERP adoption will be analyzed using SPSS 22 in order to gain insight into the hierarchy of ERP user benefits realized in this study.

For this research, we followed four stages to arrive at the results. First of all, we analyzed the literature review to identify the external factors associated with user's acceptance already examined by different authors in their studies. Second, we include two external variables to study their additional effect on the perception of user's acceptance of ERPS. Third, we set several hypotheses to examine the relation between those elements and Tam core factors. Finally, we structure a model using SPSS Amos to analyze and discuss the implications towards user perception of adopting ERPS.

The following hypotheses will be tested in this paper

H1: There is a positive effect of OPC on PU.
H2: There is a positive effect of STC on PU.
H3: There is a positive effect of PCIL on PEOU.
H4: There is a positive effect of PEOU on PU.
H5: There is a positive effect of TMS on PU
H6: There is a positive effect of SC on PU
H7: There is a positive effect of PEOU on AT
H8: There is a positive effect of PU on AT
H9: There is a positive effect of TMS on AT
H10: There is a positive effect of SC on AT

Results and discussions

The first purpose of the study is to analyze the effect of different factors on the attitudes of users with respect to ERPS implementation. To measure the reliability of the responses questions included in the questionnaire, we conduct a retest where the same questionnaire were distributed twice to the respondents. Moreover, we conduct a reliability test using Cronbach Alpha; values above 0.7 are considered to be reliable (Tavakol & Dennick, 2011) as shown in Table 3. Table 3 also show the means of the variables included in the study.

Table 3. Descriptive Statistics and Reliability

Construct	N	Minimum	Maximum	Mean	Cronbach's Alpha
PCIL1	475	1	7	3.08	.747
PCIL2	475	1	7	5.68	.712
PCIL3	475	1	5	5.20	.720
PCIL4	475	1	6	5.96	.712
STC1	475	1	7	5.80	.761
STC2	475	1	7	5.36	.729
STC3	475	1	7	2.96	.735
STC4	475	2	7	5.56	.720
OPC1	475	1	6	5.04	.740
OPC2	475	2	7	5.72	.715
OPC3	475	2	7	6.20	.708
OPC4	475	1	6	3.10	.731
OPC5	475	1	7	3.23	.745
TMS	475	2	7	6.10	.711
AT	475	1	7	5.60	.820
SC	475	1	7	5.10	.785
PU	475	2	6	5.93	.725
PEOU	475	2	7	5.81	.790

Source: Authors' own research

Top management support (TMS), Training (OPC3), Self-efficacy (PCIL4), Perceived ease of use (POEU), Perceived usefulness (PU) and Data quality (STC1) have the highest means which shows that the respondents considers these factors the most important that affects the users' attitudes toward ERP acceptance. On the other hand, Computer experience, User Manuals, ERP communication, ERP support have the lower means where they are not considered as important determinants towards user acceptance.

Path Analysis is a statistic method followed to analyze the possible correlation between two or more factors. Path analysis is a component of the Structural Equation Modeling (SEM), a multivariate technique that requires the evaluation of a series of relationships between one or more independent variables, either constant or discreet, and one or more dependent variables. We examined the significance of the path in the research paper. Results of the model analysis are shown in table 3 where the estimate represents the regression coefficients and the p value represents the significance of the variable relation between each other.

Table 4: Regression Weights

			Estimate (β)	S.E.	C.R.	P
PCIL	<---	PCIL1	.081	.160	.602	.072
PCIL	<---	PCIL2	.782	.163	1.984	***
PCIL	<---	PCIL3	.638	.245	1.752	***
PCIL	<---	PCIL4	.843	.195	.231	***
STC	<---	STC1	.928	.104	1.816	.012
STC	<---	STC2	.749	.144	.976	***
STC	<---	STC3	.117	.130	2.441	.082
STC	<---	STC4	.446	.160	.685	***
OPC	<---	OPC1	.867	.099	3.045	***
OPC	<---	OPC2	.827	.129	2.217	***
OPC	<---	OPC3	.791	.132	6.071	***
OPC	<---	OPC4	.199	.101	2.164	.312
OPC	<---	OPC5	.191	.091	1.144	.112
PEOU	<---	PCIL	.712	.114	4.911	***
PU	<---	STC	.459	.124	3.006	.002
PU	<---	OPC	.381	.111	.874	***
PU	<---	TMS	.102	.112	.701	***
PU	<---	SC	.169	.123	1.050	***
PU	<---	PEOU	.341	.138	2.096	***
AT	<---	PEOU	.191	.169	1.244	***
AT	<---	PU	.531	.197	1.513	***
AT	<---	TMS	.559	.130	3.814	***
AT	<---	SC	.477	.143	.974	***

Source: Authors' own research

From Table 4, we can notice that PCIL 1 is not statistically significant with PCIL (β= 0.081, p>0.05). PCIL2 has a strong positive significance with PCIL (β= 0.782, p<0.05). PCIL3 also is statistically significant with PCIL (β= 0.638, p<0.05). PCIL4 has the strongest positive influence on PCIL (β= 0.843, p<0.05). STC1 has a strong positive influence on STC (β= 0.928, p<0.05). STC2 is positively significant with STC (β= 0.749, p<0.05). STC3 is not significant with STC (β= 0.117, p>0.05). STC4 has also a positive significant effect with STC (β= 0.446, p<0.05). OPC1 OPC2 and OPC3 have a strong positive effect with OPC (β= 0.867, p<0.05), (β= 0.827, p<0.05), (β= 0.791, p<0.05) respectively. OPC4 and OPC5 are not statistically significant with OPC (β= 0.199, p>0.05) and (β= 0.191, p<0.05) respectively. OPC has a positive effect on PU (β= 0.381, p<0.05) so H1 is supported by the result. STC has a significant positive effect on PU (β= 0.459, p<0.05) so H2 is supported by the results. PCIL has a strong positive effect on PEOU (β= 0.712, p<0.05) so H3 is accepted. TMS (β= 0.102, p<0.05), SC (β= 0.169, p<0.05) and PEOU (β= 0.341, p<0.05) have a positive effect with PU. However TMS and SC effect on PU is a weak relation and not a strong one; thus H4, H5 and H6 are supported. PEOU has a weak positive effect on AT (β= 0.191, p<0.05) so H7 is accepted. PU (β= 0.531, p<0.05), TMS (β= 0.559, p<0.05), and SC (β= 0.477, p<0.05) are determined to be strong influential factors on the users acceptance of ERPS in the Lebanese context; as a result of the analysis, H8, H9 and H10 are supported in the study. Our study regarding the relation between PU and PEOU is consistent with other studies (Amoako-Gyampah & Salam,

2004; Bueno & Salmeron, 2008b; Calisir et al., 2009; Sternad & Bobek, 2013). Many authors considers that PEOU effect diminishes as the ERP implementation process proceeds towards its end (Davis et al., 1989; Nah et al., 2004). Moreover the results obtained in this paper regarding the relation of PU to AT is examined by different authors and a positive relation was significantly achieved (Bueno & Salmeron, 2008b; Zabukovsek et al., 2019). Top management support shows that it possess the highest influential factor on the users' attitudes toward ERPS. The findings are consistent with previous studies which investigates the effect of top management support on users' attitudes toward adopting a new technology (Dong et al., 2009; Hu et al., 2012; Lin, 2010). Figure 1 shows the results of the structural model analysis.

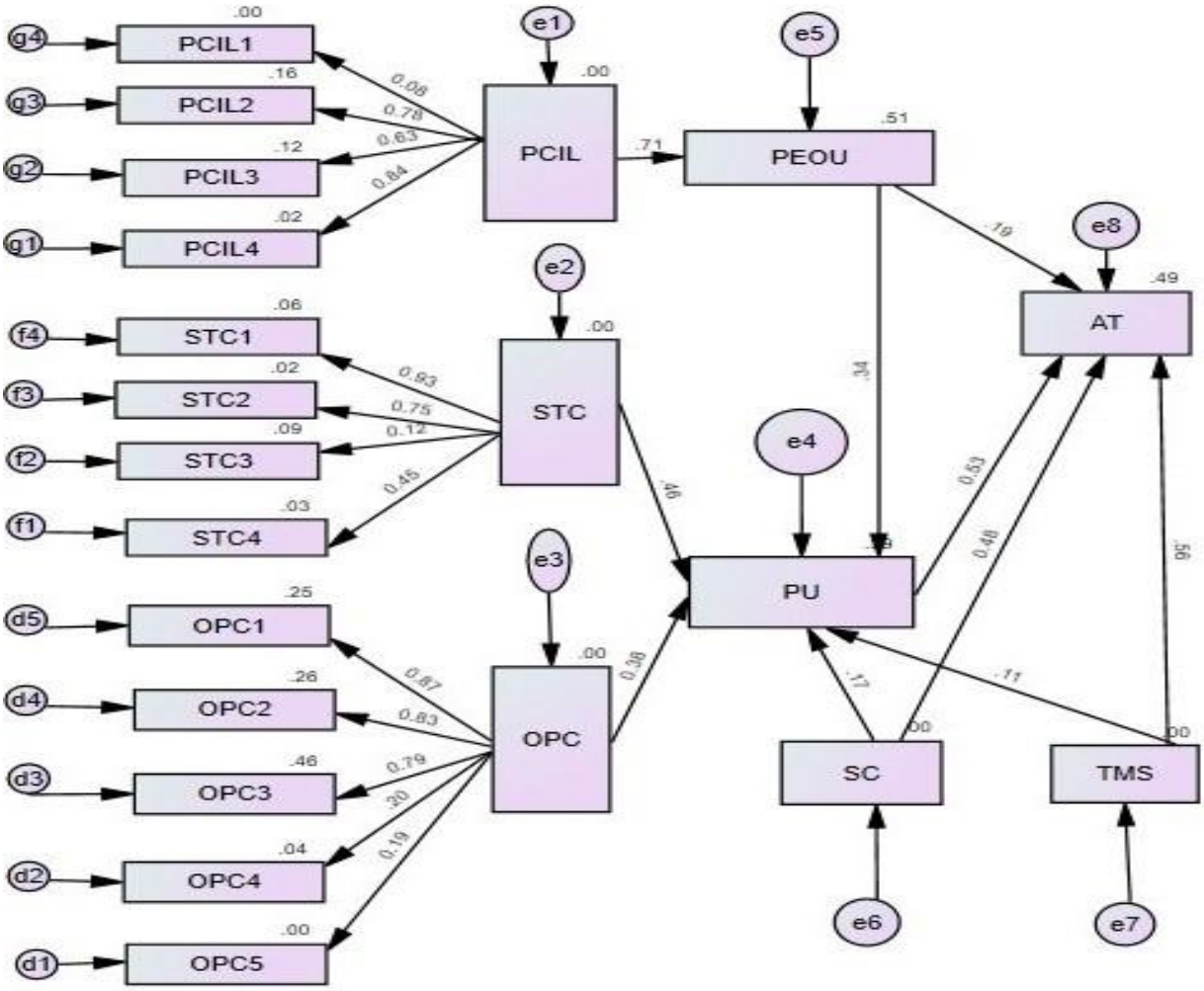

Figure1: The Structural Model Analysis

Source: Authors' own research

Personal innovativeness is a significant external influence in the PCIL variables. ERPS implementations are complicated; thus, personal creativity is supposed to be essential for users to deal with advanced functionality (Agarwal & Prasad, 1999; Hwang, 2014). This study indicates that ERP users are informed with computer anxiety since they are already aware of the complexities of ERPS and its usage benefits (John, 2015; Mohammadi & Isanejad, 2018; Schlag & Imhof, 2017; Sternad & Bobek, 2013; Venkatesh & Bala, 2008). Moreover self-efficacy has also been shown as important factor in this study which is consistent with prior researches (Amoako-Gyampah, 2007; Hasan, 2018; Rajan & Baral, 2015; Shih, 2006; Shih & Huang, 2009). Moreover, PCIL has a strong influence on PEOU in the Lebanese context; however other studies showed that there is a weak positive relation between PCIL and PEOU (Sternad & Bobek, 2013). Data quality followed by ERPS performance and ERPS functionality are found to be the highest factors among the four variables in STC category. These factors were investigated in previous studies and proved a significant relationship with STC (Bueno & Salmeron, 2008a; Calisir et al., 2009; Gattiker & Goodhue, 2005; Nah et al., 2004). However the user manuals was not significant; Most inexperienced users will bypass the guidelines and presume that most of them can be handled while using rational thinking; however; advanced users disregard the guidelines since they

believe that they already know how to use the system. STC in this study shows an effect on PU which is consistent with prior researches (Zabukovsek et al., 2019).

Organizational culture, business process fit and training are the highest factors in the OPC group affecting positively perceived usefulness. These results are supported in other studies (Amoako-Gyampah, 2007; Nah et al., 2004; Umble et al., 2003; Zabukovsek et al., 2019).On the other hand, ERP support and communication are not considered important factors for users in the study which matches other researchers' findings (Zabukovsek et al., 2019); however (Rajan & Baral, 2015) considered them an importance factors for ERP users.

The second purpose of this study is to analyze the ERP benefits realized. Table 5. Shows the respondents means of the ERP Benefits.

ERP Benefits	Mean	Rank
Centralized information	6.12	1
Improvement in business processes	5.81	2
IT system standardization Integration	5.74	3
Improved planning and control	4.68	4
Improved financial reporting	5.62	5
Improved supply chain performance	5.41	6
Organization Learning	5.38	7
Increase in ROI and ROA	4.23	8
Reduction in production cost	4.20	9
Technology upgrade Attain, expand & extend enterprise systems	4.12	10
Increased profits	4.08	11

Source: Authors' own research

ERPS users consider that centralization is the most important benefit they have attained from ERPS implementation. It shows the highest mean of 6.12. In order for a firm to survive and thrive, coordinated efforts are required. As the quote says, organizations usually set up their employees in silos since functioning together demands more time and effort. That said, ERPS is an absolute breeze to use for communication. A collaborative ERPS makes it possible for team members to use relevant data anytime, wherever, as needed. In order to allow departments to exchange information, a database has been established where all the information collected in each department is centralized. Moreover, improvement in business processes also shows a high average mean. With lower IT and training expenses, an ERP helps personnel get their everyday tasks done quicker and more efficiently. Employees may concentrate on duties that have a direct impact on the bottom line when an ERPS is deployed correctly. In ERP standardization, one goal is to apply the core values, uniformity, and efficiency into production processes operations, but the process is not used to compel enterprises to make undesired changes. Standard ERP implementations also support customized implementations that give considerable versatility. It is surprising to notice that respondents consider increased profits as the least benefit achieved from ERPS. When the researcher investigated different user views, it was noticed that ERPS implementation was a challenging task in their organization and its budgeted costs and time were exceeded by a considerable amount.

Conclusion

Organizational implementation of ERPS is critical in today's dynamic globalized industry. Experience with ERPS in a variety of organizations during the last decade showed that efficient implementation of ERPS does not inherently contribute to successful ERP use. Companies benefit from ERPS but only to the degree that they are embraced and utilized by users. However, the use of ERPS is tightly related to the employees' acceptance measures of these systems. In order to increase the reliability and efficacy of ERPS over the ERP lifecycle, organizations need to consider the variables that have an impact on user acceptance and thereby affect their sustained use of the ERPS. The implementation of the ERPS has been hampered by multiple challenges and there is also a necessity for further research to be undertaken to support practitioners on how to achieve success in ERPS implementation. The study theoretical aspects include a literature analysis from entirely multiple opinions and a synthesis of the principal factors for the ERPS user's acceptance and

implementation of the ERP. Such participation accounts for the further scope of reference of the findings of this analysis to successful ERP implementation from a user perspective.

The goal of this study was to improve the understanding of how external variables have an effect on the degree of users' attitudes toward ERP acceptance. This study integrates previous studies with the incorporation of classes with external variables (Sternad & Bobek, 2013; Zabukovsek et al., 2019). Moreover, we added total management support and system competency as variables to investigate their impact combined with PEOU and PU on the users' attitudes. The study showed a significant positive effect of the TMS, PU and SC on users' attitudes of ERPS acceptance. The model presented can be helpful in enhancing the understanding of the complexities and issues of concern of the ERPS used in the Lebanese context. One of the limitations in this study is that the authors did not compare the effect of external variables based on the respondents' gender, education and position. This presents an opportunity for additional research on the effect of these factors that can aid organizations in setting proper planning strategies to empower users to accept the new technology which represents an opportunity for nurturing their skills and improving their knowledge and career. Another limitation is the external variables included in the study which do not show a comprehensive set of the variables that influence the users 'attitudes; so future research to include additional variables will add value to the existing literature and provide organizations with advanced model that enable enterprises to benefit from the best practices of ERPS.

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