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The Impact of Change Management on ERP System Outcomes: A Case of Jordanian Pharmaceutical Companies

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Abstract
The purpose of this study was to explore the impact of change management dimensions (top management support, enterprise communication, organizational culture, and training and education) on ERP system outcomes (productivity improvement and decision-making improvement) in the Jordanian pharmaceutical companies. To achieve the objective of the study a questionnaire consisted of (46) items was built, and its validity and consistency were verified. The study was conducted on a sample of (200) employees working in five major companies in the Jordanian pharmaceutical sector: Hikma Pharmaceuticals, Pharma International Co. and United Pharmaceutical Manufacturing Co., Philadelphia Pharmaceuticals Co. and Amman Pharma Industries. Data was analyzed using regression analysis. The results of the study indicated that the four dimensions of change management have a significant positive impact on the two outcomes of ERP system application.

Keywords: Enterprise Resource Planning (ERP), change management, ERP system outcomes, Jordanian pharmaceutical companies

Jel Classification: M19, D89

1. Introduction

In the early 1970s, Just in Time (JIT) system has achieved superiority of the Japanese companies in the market. In the same time, the American industrial companies were facing problems of low productivity and loss of their markets. In these circumstances, the Material Requirement Planning (MRP) system emerged as an American response to these problems. MRP was focused on material planning but not for all resources and purchasing and manufacturing functions. In

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the 1980s, manufacturing resource planning (MRP II) system was developed to include all functions and resources related to manufacturing, such as financial and resources planning. In the 1990s, the Enterprise Resource Planning (ERP) system emerged as a system of integration of planning, management and use of all resources within an entire enterprise (Powell, 2013, p. 1491).

In today's competitive and complex business environment there is a huge need for enterprise system to manage business effectively (Al-Ghamdi et al., 2013). In recent years ERP has incorporated other business extensions such as supply chain management and customer relationship management to become more competitive. Since the use of ERP, it has been considered as a main determinant to gain competitive advantage, many firms around the world have implemented (ERP) systems (Dezdar & Ainin, 2011). Many organizations adopted (ERP) systems to face there incessantly need to change their business way. These changes needed to keep their competitive advantage. Studies have shown that 80% in the fortune 500 companies' return is due to adopted ERP system (Kee-Young et al., 2008).

The main reasons to use ERP System are to maximize productivity, and integration of information as one context (Lee et al., 2003). Also, to solving the problem of information fragmentation and supporting the decision makers with consolidated and consistency information, avoiding duplication of the information from multiple sources with different results, and presenting a precisely overview about the companies' situation (Azevedo et al., 2013). A successful ERP system can be the backbone of business intelligence for companies because it can give managers a comprehensive view of the processes in the companies (Parr et al., 2000). However, there are many challenges facing the implementation of the system. One of the reasons that contribute to success or failure of the system application of the system is the change management.

This study seeks to test two main hypotheses:

H_1: There is a positive impact of change management dimensions on productivity improvement as an outcome of ERP application.

H_2: There is a positive impact of change management dimensions on decision making improvement as an outcome of ERP application.

2. Literature Review

With the growing proliferation of ERP system and the diversity of its applications in companies, ERP system can have several different meanings, and in its applications has six important meanings. First, refers to a software solution that integrates business functions and data into a single system to be shared within organization (Swartz & Orgill, 2001). Second, describes it as an integrated and corporate-wide system that automates core activities such as manufacturing, human resources, finance and supply chain management (Razmi et al., 2009). Third, refers to as a software system that includes a wide range of business processes that enable the company to gain a holistic view of the business enterprise (Ehie & Madsen, 2005). Forth,

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is a cross-functional information system with modular design and one centralized database. It integrates organization internal core business processes like manufacturing, production, accounting, financial, human resource, sales and other functions (Al-Shamlan & Al-Mudimigh, 2011; Rashid et al., 2002). Fifth is an integrated set of programs and processes for all kind of data and information that provides support for main organizational activities such as manufacturing and logistics, finance and accounting, sales and marketing, and human resources (Aladwani, 2001; Lashunda, 2010; Ngai et al., 2008). Finally, the sixth meaning sees ERP system as an information system that links back-office operations to front-office operations as well as internal and external supply chains (Yang & Su, 2009).

According to the previous definitions, it's so clear that ERP system is an information system that can integrate all business functions, with one accurate and timely information source, that avoid duplicate of information, it's considered as a back bone of a company, ERP also can reduce cost, increase productivity, give good quality of information and support the decisions making in all levels. External systems ERP II such as: (supply chain management SCM, customer relationship management CRM, product lifecycle management PLM, Supplier relationship management SRM, etc.) represent an impotent extension in order to integrate business processes inside and outside the company, which enhances the efficiency of the system.

ERP system has many benefits and limitations. According to the researchers, there is a long list of benefits that can be achieved by using the system: at the operational level: Cycle time reduction, improving, inventory/asset management, procurement and maintenance cost reduction, increasing productivity, improving communication, entirely, improving customer service and retention, and more accurate transactions. At business level, the significant benefits are: improving management decision making, financial management. Improving customer relationship management, supply chain management, product lifecycle management, ease of expansion/growth and providing competitive advantage through improved business performance, inventory reduction, procurement cost reductions (Deloitte, 1998; Davenport et al., 2001; Seddon et al., 2003, p. 79; Kholeif et al., 2008; Mishra, 2008). However, there are some disadvantages of implementing ERP such as: high implementation cost, delay on return on investment, takes a long period to be implemented, and implementation difficulties duo to lack of end-user involvement (Calogero, 2000; Kholeif et al., 2008, Lee & Lee, 2001).

In the application of the system there are also many challenges and problems which greatly affect the outcome of the application, these challenges are related to the level of ERP system integration, technical and human requirements to operate the system efficiently, and outcomes of system performance in the company (Pearlson & Saunders, 2004; Deloitte Consulting, 1998).

Application of ERP system often leads to profound and complex changes in the organization and its organizational units and functions which raise many concerns for employees. In order to face the problems and challenges, there is a need to change management. Adaption and use of ERP system requires effective change management. Change management provides the technical and human requirements for the introducing of the new system that can

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contribute to the creation of an appropriate organizational climate to reduce resistance to change among employees.

In this study, the focus was on the four variables of change management in relation to ERP system application (top management support, culture, training and education, and communication). The two results can be achieved by the system are productivity improvement and decision-making improvement.

2.1 Change Management

Change management considered as a structural approach to transitioning process that could be with individuals, teams, and organizations from the current situation to the desired future. Change management has many different definitions according to the change needed and what part of organizations need to be changed. One of the most popular understandings to change comes from Lewin in 1951. According to, Lewin (1951): Change management has typically been defined as a process involving unfreezing, moving, and refreezing values, practices, and procedures within organizations. Other definitions focused on processes and techniques (Creasey, 2007), empowering employees to accept change (Hiatt, 2010). A structured approach to transitioning individuals, teams, and organizations from the current state to the desired future state (Sacheva, 2009), people through the emotional ups and down that inevitably occurs when an organization is undergoing massive change (Nah & Sieber, 2001), therefore change management as a critical success factor in software systems (Apostolou et al., 2011). There are many models for change management that have been developed since 1951 such as: Lewin's three phase change management model (1951), Kotter's Eight-step Model (1996) and others.

According to Kotter (1996) all models in general talk about awareness, involvement, and support of top management to guide the change processes, creating a vision of change and communicate it to employees, also the employees should be ready to change by training and communicating it with them to justify and make clear all goals of organizations change, then all achievements of change management must anchor them in corporate culture.

2.2 Change Management and ERP System

According to Al-Mashari & Zairi (2000), implementation of ERP system needs to use change management strategies to facilitate infusion of ERP in the workplace. Although a lot of studies address that change management is the main process to success of ERP implementation, many ERP systems still face resistance that can lead to the failure of system application. Change management is necessary to overcome employees' resistance to change, when ERP system adopted and implemented in any organization (Aladwani, 2001).

One of the most important parts of a successful ERP system implementation is managing the changes which help employees to smoothly transition from the traditional way of business process to a new and different way, and what that will achieve to the organization and the employee them self (AL-Ghamdi et al., 2013). Al-Shamlan & Al-Mudimigh (2011) argued that

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the proportion of the failure in ERP projects is very high. It can be estimated between 60-90%. In other hand, 90% of successful implementation companies report that change management has significant effect on their effective ERP implementation (Foster et al., 2008). There is nothing more important than training in the success of ERP system. Change management it's a continually process, started before adopting ERP system, and will never stop, by supporting the project, make all resources needed available, training, development, assessment…etc. This process should be integrated with all phases before, within, and after implementing the ERP system, to make sure the organization will achieve all desired goals. The change management components of ERP system can be identified as follows:

1) Top management support: This support is one of change management components has an impact on ERP system outcomes and success (Holland & Light, 1999; Al-Mashari et al., 2003; Muscatello & Chen, 2008; Dawson & Owens, 2008; Umble et al., 2003; Nah et al., 2003; Al-Mudimigh et al., 2001). There are two main key functions of top management support that must be taking into account: leadership and resource. Leadership that provides the strategic vision, refers to the ability to influence employees to implement what leadership is seeking to achieve. Change requires a strategic vision to ensure its long-term success (Kotter, 1996; Aladwani, 1999). In a survey conducted by (Zairi & Sinclair, 1995) leadership which is part of top management support was ranked the number one facilitator of large transformation. According to (Buhanist, 2000) there is no radical change without real support from top management. Resources that include time, money, personnel, are essential to the success of ERP system. To implement ERP system project, top management needs to allocate enough budgets to fund the project, such as hiring competent consultant, and training employees. Given the complex nature of an ERP system and its implementation cost prospect, it is essential for an organization to find out its financial, technological and human resources strengths before embarking on an ERP system implementation (Razi & Tarn, 2003).

2) Training: User training, education and involvement are critical to systems to achieve their goals. Thus, training has at least two important advantages. a. To obtain knowledge of the ERP system, this reduces uncertainty and allows a better participation in the implementation project. The fact of a person being called for training allows him/her to create the feeling that organization is interested on his/her work, reducing the feeling of losing their jobs (Esteves et al., 2002). ERP is a complex system; therefore training is very important, adequate training and education must be provided to enable the users to use them effectively and efficiently (Dezdar & Ainin, 2011), Nah et al. (2003) stated that sufficient training can increase the probability of ERP system implementation success; adequate training and education may also assist the organization to build positive feelings towards the system and reduces user resistance (Bradley, 2008).

3) Communication: Communication is the process by which individuals stimulate meaning in the minds of other individuals by means of verbal or nonverbal messages in the context of formal organization (Richmond et al., 2005). For ERP systems communication is essential for organizational socialization, sharing of knowledge and experience between employees and departments to unify understanding of the system and the integration of their

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efforts to achieve its success.

4) Organizational Culture: Culture is a collective programming of the mind which distinguishes one group from another" (Hofstede, 1980, p. 25). It comprises the shared set of beliefs, expectations, values, norms, and work routines that influence how members of an organization relate to one another and work together to achieve organizational goals (Jones & George, 2011). Culture has layers which can be distinguished, the main four different layers of culture are: symbols, heroes, rituals and values (Hofstede et al., 2010). Culture is rooted in the organization as well as rooted in the software, while the developer and consultant make the program ready to take care of culture. If cultures of producers and users are different, it results in a cultural clash (Otieno, 2010). ERP system always makes a real change in business process and organizational culture, while organizational culture plays an important role in ERP system success (Shah et al., 2011). It mandates rules, values and practices at the organizational and individual levels (Rasmy et al., 2005). According to the studies conducted in Jordan 2009 and Singapore 2001 about the reasons that lead to ERP system failure, the findings revealed that one of the most important of software failure and misfit to organization was the organizational culture and the national culture as a whole (Zaglago et al., 2103).

2.3 ERP and Productivity Improvement

One important objective of ERP system adaption is to improve the productivity of the organization. Productivity in general is the efficient utilization of organizational resources and is measured by efficiency of individual, company or nation. Productivity has many definitions with many perspectives. a. Productivity is the obtaining of maximum benefit possible while benefiting from optimum work force, power, and capacity, skills of human resources and equipment (Rangriz et al., 2013). b. Productivity is a thought; a way of thinking for continuation of progress and improvement in organizations (Rangriz et al., 2013). c. Productivity is a continuous endeavor for implementing new methods and technologies (Khorasany, 2008). d. according to the Asian organization, productivity is a behavior to improve the existing actions and encourage everybody to act today; better than yesterday (Sasanian, 2005). Studies have confirmed that ERP system can achieve the main four tangible benefits: inventory reduction, personnel reduction, productivity improvement, and order management improvement (Fryer, 1999). Studies carried out by Goeke & Faley (2009), Jones & Young (2006), found that cost reduction and productivity improvement were the main outcomes of ERP system application. Generally, productivity could be considered as a comprehensive measure of how organizations satisfy the following criteria (Prokopenko, 1987):

a- Objectives: The degree to which they are achieved.

b- Efficiency: How efficiently the resources are used. (Doing things right).

c- Effectiveness: What is achieved compared with what is possible (Doing the right things).

d- Comparability: How productivity performance is recorded over time.

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All these measures are the integrated components of broad vision for productivity that can be in the case of the efficient and effective application of ERP system.

2.4 ERP and Decision-Making Improvement

Management theorists considered decision making as one of the most important activities between all management activities (Drucker, 2010; Mintzberg, 2008; Simon, 1997). Then, the first job of the managers in all organizational levels is to make decisions. Most discussions of decision making assume that only senior executives make decisions and that is dangerous mistake, every level in the organization should participate in decisions-making (Drucker, 2009). However, in effective organizations, all employees are involved in the decision-making process. It is true that the good information won't guarantee good decisions, however there is no good decision without good and accurate information in appropriate place and time. ERP system is a software system that integrates business functions and data into a single system to be shared within organization (Swartz & Orgill, 200l). Decision making improvement through the ERP system implementation includes: improved strategic decisions, responsiveness, better profits, cost control, effective strategic planning, improved operational decisions, efficient processes, and quick response to work changes, and rapid response to customer demands and quick service adjustments.

3. Method

Extensive review of the literature conducted and revealed that the study independent variables comprise of four components of change management (top management support, enterprise communication, organizational culture, and training and education). The dependent variables include productivity improvement and decision-making improvement. Depending on literature review, the questionnaire as a tool of data gathering and new multi-item measurement scales for measuring these determinants factors (variables) were developed. There were a total 6 constructs and 46 items. The items divided into 3 parts, the first part 8 items about demographical information and the respondent relationship with ERP system, the second part 25 statements about change management variables, the third part 13 statements about ERP system outcomes variables.

The study population consisted of 16 pharmaceutical manufacturing companies working in Jordan. These companies can be classified into three groups based on number of employees. Large companies group with 500 or more employees includes 3 companies only. Medium companies group with (250-499) employees includes 5 companies. Finally, small companies group with less than 250 includes 7 companies, and two of them not applied the ERP system which means only 5 companies are suitable for the study sample. Sample of the study consist of five companies, one large company (Hikma Pharmaceuticals), two medium companies (Pharma International Co. and United Pharmaceutical Manufacturing Co.), and two small companies (Philadelphia Pharmaceuticals Co. and Amman Pharma Industries. The sample size is (200) respondents. In each company, (40) questionnaires were randomly distributed to employees (managers and non-managers), (171) questionnaires were completed and suitable to

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statistical analysis. Table 1 shows the sample characteristics.

Table 1: Sample characteristics

Characteristics		*Frequencies*	%
Gender	Male	107	63
	Female	64	37
	Total	171	100
Age	>25	32	18.7
	25-34	99	58.9
	35-44	34	19.9
	45-54	6	3.4
	≥55	None	0
	Total	171	100
Martial status	Married	87	50.9
	Single	84	41.1
	Total	171	100
Education	Secondary	3	2
	Diploma	36	21
	Bachelor	129	75
	Master	3	2
	PhD	0	0
	Total	171	100
Year of experience	≤ on e year	23	14
	2-5	63	37
	6-10	46	27
	> 10	39	23
	Total	171	100
Job position	Manager	14	8
	Team leader	6	4
	Supervisor	38	22.2
	Senior officer	16	9
	Accountant	12	7
	Q.A. officer	35	21
	Officer	50	29
	Total	171	100

3.1 ERP Modules Related to Respondent Jobs

Table 2 shows that all main modules of ERP system are active in the work of the respondents, and they are divided to many sections. The manufacturing module of the ERP system is the most useful with main percentage of respondent usages (46.2) percent, followed by supply chain management (22.8) percent, finance module (9.4) percent of respondents, HR (2.9) percent of respondents. While the rest of respondents which consist of (18.7) percent of respondents which are working on other modules such as: sales and marketing, quality management, procurements, and some of them are IT staff.

Table 2 also shows the extent to which the respondents used the ERP modules. The results indicated that (60.3) percent of the respondents are heavy users of the ERP system with (103) out of (171) respondents, and 20.5 percent using the ERP at least once a day with frequency 35 of respondents.

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Table 2: ERP modules and their frequency

ERP modules	*Frequency*	*%*
Manufacturing	79	46
Finance	16	9
HR	5	3
Supply chain management	39	23
Others	32	19
Total	171	100
Use of the ERP system modules/Time		
Once a day	35	21
Many times/day	103	60
Once a week	23	13
Many time/week	10	6
Total	171	100

4. Results

4.1 Tests of the Questionnaire

Face validity: Depending on literature review, the questionnaire was initially developed for the purpose of this study, and it was reviewed by a panel of experts to make sure that the questionnaire was successful in measuring what it was designed to measure. The panel of experts composed of eight experts from four Jordanian universities and two from two Saudi universities, and one expert from the privet sector. Totally, eleven experts were involved in developing the questionnaire items.

Construct validity: Factor loadings were calculated to assess the construct validity of the measurement scales and to determine what the factors to be extracted from study variables. The variable that had factor loading < 0.5, which is the cut-off limit for loading items, should be eliminated from the analysis. Table 3 shows the results of the test and all factor loadings for study variables are greater than (0.50).

Table 3: Factor loadings of study variables

Variables	*Factor 1*	*Extraction*
Top management support	0.829	0.687
Enterprise communication	0.862	0.743
Organizational culture	0.757	0.573
Training and education	0.783	0.613
Productivity improvement	0.801	0.642
Decision making improvement	0.808	0.652

Reliability test: This analysis is necessary to study scale features and internal consistency between the questionnaire items, and their correlation. The analysis was done by calculating Cronbach`s Alpha for the change management dimensions. Cronbach's alpha values were between 0.912 and 0.725, which indicate excellent acceptable internal consistency between questionnaire items (George & Mallery, 2003).

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Relationship between variables: Pearson's correlation matrix is important tool to verify that there are relationships between independent and dependent variables. If all or most of the correlations are above (30%) at a significant level, that is a good indicator of the appropriateness data, then the study variables are appropriate for analysis. Table 4 shows the results of correlations between variables and all inter- item correlation are larger than 0.30 at significant level.

Table 4: Pearson's correlation values

	Change management success factors				*ERP outcomes*	
	TMS	CO	CU	TR	DMI	PI
TMS	1.000					
COM	0.715**	1.000				
CUL	0.583**	0.558**	1.000			
TR	0.560**	0.615**	0.595**	1.000		
DMI	0.604**	0.636**	0.449**	0.487**	1.000	
PI	0.533**	0.622**	0.511**	0.548**	0.694**	1.000

** Correlation is significant level at ($\alpha<0.05$)
Independent variables: TMS: Top management support, COM: Enterprise communication.
CUL: Organizational Culture, TR: Training and Education.
Dependent variables: PI: Productivity Improvement, DMI: Decision making Improvement.

4.2 Hypothesis Testing

After ensuring that the study tool is appropriate to test hypothesis, statistical methods were used to test the main and sub hypotheses. There were two level of the statistical test that have been identified, a. Calculating correlation coefficient (R) and Calculating coefficient of determination (R^2), to ensure that there is relationship between each one of four (Independent variables) with each one of two (Dependent variables). b. The main hypothesis testing used in this study was calculating multiregression coefficient and the role of decision is represented in t-calculated, while t-calculates is larger than t-tabulated, the null hypothesis is rejected, and the alternative hypothesis is accepted.

H1: There is a positive impact of change management dimensions: top management support (TMS), communication (COM), culture (CUL), Training and Education (TE) on productivity improvement as an outcome of ERP application. This main hypothesis divided to four sub-hypotheses (Ho1a. Ho1b, Ho1c, Ho1d).

As in table 5, the result showed that values of coefficients of determination for change management dimensions ranged between (0.202) and (0.404), which mean these are positive relationships between these variables. To test hypothesis, the simple regression coefficient was used. The results show that there is a positive impact of each dimension of change management on productivity improvement at significant level ($P<0.05$). According to result of multiregression, there is a positive impact of all change management dimensions together on productivity improvement. For all dimensions, values of the t-calculated were larger than t-tabulated (1.65) when ($n > 120$), therefore the null hypotheses were rejected, and the alternative hypotheses were accepted. The result indicates there is an impact of change management on

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productivity improvement.

Table 5: Results of hypotheses testing, $H0_1$ (n= 171)

Independent variables: change management	*Dependent variable ERP outcomes*	*R*	*R²*	*β*	*t*	*Sig*
$H0_{1a}$: TMS	Productivity	0.604	0.365	0.553	8.191	0.000
$H0_{1b}$: COM	improveme	0.636	0.404	0.572	10.328	0.000
$H0_{1c}$: CUL	nt	0.449	0.202	0.432	7.732	0.000
$H0_{1d}$: TE		0.487	0.237	0.324	8.517	0.000
For all independent variables: $R = 0.644$; $R^2 = 0.415$; $\beta = 0.646$; $F = 119{,}775$; $Sig = 0.000$						

H2: There is a positive impact of change management dimensions on decision making improvement as an outcome of ERP application. This main hypothesis divided to four sub-hypotheses (Ho2a. Ho2b, Ho2c, Ho2d).

The results of hypothesis testing in table 6, show that there is a positive impact of each dimension of change management on decision making improvement at significant level. For all dimensions, values of the t-calculated were larger than t-tabulated, therefore the null hypotheses were rejected, and the alternative hypotheses were accepted. The result indicates there is an impact of change management on decision making improvement.

Table 6: Results of hypotheses testing, $H0_2$ (n= 171)

Independent variables: change management	*Dependent variable ERP outcomes*		*R*	*R²*	*β*	*t*	*Sig*
$H0_{2a}$: TMS	Decision	Making	0.533	0.284	0.540	9.865	0.000
$H0_{2b}$: COM	Improvement		0.622	0.387	0.620	10.709	0.000
$H0_{2c}$: CUL			0.511	0261	0.544	6.540	0.000
$H0_{2d}$: TE			0.548	0.300	0.404	7.245	0.000
For all independent variables: $R = 0.660$; $R^2 = 0.435$; $\beta = 0.733$; $F = 130.316$; $Sig = 0.000$							

5. Discussion

This study considered as one of few studies investigates the ERP system in Jordan, and it's the first study investigates the impact of change management on ERP outcomes in this context.

The study used simple and multiregression to test hypotheses and find out the results for each one and to determine if there is an impact between independent and dependent variables, there were two main hypotheses and each on divided to four sub hypotheses, and two main conclusions were confirmed by the hypothesis test. First, there is a statistically significant impact of change management (Top management support, Culture, Training and Education, Communication) on productivity improvement. This result indicated that all four dimensions of change management (independent variables) have a significant impact on the dependent variable decision-making process in the organizations that used ERP system. This result was

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consistent with many studies; Leyh, (2014), Zaglago (2013), Nejib (2013). Second, there is a statistically significant impact of four dimensions of change management on decision making improvement. This result was consistent with many studies: Hayati et al. (2015), Al-Mobaideen, (2014), Ladewi & Yuhanis (2014).

Simple regression analysis was used in the test of four sub-hypotheses within the first main hypothesis H1 (a, b, c, d). The results indicated that communication has the more impact than others dimensions on the productivity improvement. This result is consistent with Afaneh et al. (2015) and Husain (2013). In the second place the training and education in consistence with Dezdar & Anin (2011) and Doroba & Nastase (2012), and in the third place the top management support, In accordance with the result of the study of Hwang et al. (2012). Finally, results of the study conducted in the Jordanian pharmaceutical companies, clearly revealed that the ERP system which is based on standard technical modules, it can lead to the same results in different environments. Madanayake et al. (2009), and in the last place the organizational culture this result consistent with Zaglago (2013) and Rabaai (2009).

In the test of four sub-hypotheses within the second main hypothesis H2 (a, b, c, d). The results showed that the communication has the strongest impact and more than others in the decision-making improvement, this result consistent with Afaneh et al. (2015). Husain (2013). In the second place was the top management support. This result was agreed with studies of Hwang et al. (2012) and Madanayake et al. (2009), followed by the training and education in the third place. This result was consistent with studies of Dezdar & Anin (2011) and Doroba & Nastase (2012), and in the last place was the organizational culture. This result is consistent with Zaglago (2013) and Rabaai (2009). The final result of the first main hypothesis H1, was obvious that the change management had very strong impact on the decision-making improvement, this result consistent with Ladewi (2014) and Bahrami & Jordan (2009).

Finally, results of the study conducted in the Jordanian pharmaceutical companies, clearly revealed that the ERP system which is based on standard technical modules, it can lead to the same results in different environments. Madanayake et al. (2009), and in the last place the organizational culture this result consistent with Zaglago (2013) and Rabaai (2009). The final result of statistical analysis by multiregression in the first main hypothesis H2, it was obvious the change management variable had very strong impact on the productivity improvement, this result consistent with Beheshti & Beheshti (2010) and Rangriz et al. (2013).

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