Business Transformation and its Effects Upon Strategic Alignment Maturity Level

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Abstract

The ever-increasing expenditure and investment in information technology leads to an increasing demand to measure the maturity level in the researched firms. Therefore, the main goal of this study is to investigate the strategic alignment maturity level and how it can be improved by the firms using business transformation alignment which addresses both how IT is in harmony with the business and how the business should, or could be in harmony with IT. The study population contains selected Jordanian firms from different sectors. The study has reached to the following main conclusions: There is a positive relationship between business transformation and strategic alignment maturity level and there is a significant statistical effect of business transformation upon strategic alignment maturity level. In addition, the study recommended that the researched Jordanian firms should pay attention to the business transformation and should give a specific care to the six criteria of strategic alignment maturity.

Keywords: Strategic Alignment Maturity Level, Business Transformation, BPR, OL, TQM.

1. Introduction

The concept of strategic alignment stresses the harmonization of IT strategy with business strategy. Luftman,.J., et al, (2004: 68) mentioned since 1985, one of the major concerns of the key leaders has been the alignment of business goals and IT goals. Information technology executives today must show parallel concern in both technology and understanding business strategic goals in a dynamic and uncertain environment. IT executive must also understand how their organizations are positioned within an equally dynamic and uncertain technology marketplace so that their choices of technology support the delivery of services and products to support the strategic choices of the business to enhance competitive advantage.

Organizations are investing extensively on information systems to get the maximum benefits of Information Technology (IT) in today's competitive business set-up. Despite significant efforts to improve IS projects' success, many information systems tend to be unsuccessful most of the time. The reasons sought are the lack of alignment between IS planning and business planning (Adarsh Garg, et al, 2010).

Val. A et al, (2010) described the importance of the alignment between information systems (IS) and the. they found that IS-marketing alignment had a positive impact on both business performance and marketing performance, and that marketing performance in turn had a modest but positive impact on business performance.

The classic strategy-structure fit or IT strategy-infrastructure fit models are no longer enough to address the complex interrelationships that exist between IT and the firms' business strategies (Van de Ven and Drazin, 1985). Organizations that have been able to make successful integration between technology and business strategy have achieved significant business returns. Consequently, organizations want to ensure that IT investments are made on those projects that improve business performance and

competitiveness. (Tallon, et al, 2000). Furthermore, IT executives consider strategic alignment as one of the main challenges that the organization has to face. Ives & Mandviwalla (2004), Luftman,.J.,(2000), Tallon & Kraemer(2003).

Besides,Incorporating information systems and information technology (IS/IT) in the organizations have considerable risks, and these risks are increased when a strategic plan for its incorporation is not done. The objective is to contribute in the alignment between business and IS/IT strategies using concepts and techniques from engineering and enterprise architecture.(Llanos Cuenca, 2010).

The strategic alignment maturity assessment provides organizations with a vehicle to evaluate these activities. It is necessary for the firm to know the maturity of its strategic choices and alignment in order to understand its position and ways of improvement. (Luftman, J.,2000).

Once the maturity is understood, the relationship between business and information technology is improved by the assessment method which provide the organization with a roadmap that identifies the opportunities for enhancing this relationship. Each of the five levels of alignment maturity focuses, in turn, on a set of six criteria based on that introduced by Jerry Luftman,J.,(2000:1-51) as: Communications Maturity, Competency/Value Measurement Maturity, Governance Maturity, Partnership Maturity, Skills & Architecture Maturity, Scope Maturity.

Finally, mutual understanding between the CEO and CIO is thought to facilitate the alignment of an organization's IS with its business strategy, and thereby enhance the contribution of the IS to business performance(Alice. M, et al, 2010).

2. Literature Review

2. 1 Strategic Alignment Maturity

The strategic alignment maturity assessment provides organizations with a vehicle to evaluate these activities. Knowing the maturity of its strategic choices and alignment practices make it possible for a firm to see where it stands and how it can improve.

Connecting the Information Systems, Information Technology strategy with business strategy has become a crucial issue. The level of integration between business strategies requires the explanation of interrelationships, in order to achieve business goals.(Abdullah, et al, 2009).

Once the maturity is understood, the assessment method provides the organization with a roadmap that identifies opportunities for enhancing the relationship of business and IT. (Luftman, J., 2000). Strategic Alignment is based on strategic fit and functional integration. Strategic fit recognizes the need to take into consideration both the internal and external domains when executing an IT strategy. The internal domain consists of the organizational and IT infrastructure and process, whereas the external domain is the market in which the organization competes. It is also “the extent to which strategic choices that position a firm in a market are aligned with those choices that determine the organizational infrastructure and processes.”(Henderson. J.C. and Venkatraman, N. 1999). Strategic fit is the vertical linkage in the model that explain the need of business to make decisions that will dictate their position in the market place and the strategic fit means the use of strategy to determine the business infrastructure(Papp,2004).

Functional integration is concerned with how the business strategy and IT strategy are related. It concerns the “extent to which the strategic choices made in the

business domain are aligned with those choices made in the technology domain". (Henderson, J.C. and N. Venkatraman, 1999).

It is necessary for technology to change wherever the business change in order to keep up the business processes. This linkage describe the ability of the business to successfully position itself in the marketplace through leveraging the use of information technology and it can bring about competitive advantage also maximize the value of information technology (Ives, Jarvenpaa& mason,1993).

Strategic alignment implies that the implementation of the organization's IS aligns with and develops the business strategies and organizational goals.(Oana Velcu, 2010).

A new perspective is needed to better understand IT investment Based on the literature within Dynamics Capabilities Theory and IT-Business Alignment (Andrew Schwarz et al, 2010).

2.2 Business Transformation

Business transformation is an overarching concept which organization adopts in order to bring about significant improvement in business performance. These strategies include business process reengineering, organization development/learning, total quality management and use information technology. (Ian Mckeown & Georg Philip,2003: 3).

Uhnyoung Lee. A and Ivan. A, (2006: 31) defined Business transformation as a key executive management initiative that attempts to align the technology initiatives of a company with its business strategy and vision. The situations known as business- IT gaps often hamper business transformation projects since they lead to failure in demonstrating the business value of IT functions and capabilities.

In a conference convinced by the Corporate Renewing Centre in INSEAD there was an attempt to create a common definition, for Business transformation which defined as 'A fundamental change in organizational logic which resulted in or was caused by a fundamental shift in behaviors (Muzyka, dekonig, &Churchill, 1995).

In addition, business transformation is an integrated approach that affects leadership, strategy, finance, organizational structure and operations and relies on transformational change management. (Australia Post, GE).

According to many attempts to introduce specific definition of business transformation, the researchers define it as a shifting processes include all organizational functions and behaviors using innovative strategies such as business process reengineering, organizational learning, total quality management, change management, in order to respond to dynamic changes in business environment to achieve strategic, tactical, operational alignment between business and information technologies.

Successful business transformation has many characteristics that are identified by Prahalad and Osterveld, (1999) first, it is also not just about reducing costs, improving profitability, or reengineering. Second, the whole organization must involve in transformation. Third, transformation must deal with deeply embedded and often tacit values and beliefs. Finally, New markets and businesses and new approaches inevitably demand changes in the skill sets at all levels, therefore, transformation requires building a new portfolio of skills within the corporation.

Firms often need to transform and optimize their business processes through simplification, standardization, consolidation, in sourcing and/or outsourcing. In order to decide whether and how to perform these transformation initiatives, firms need to estimate the value of different transformation approaches. the value of strategic flexibility, which may be embedded in different business transformation approaches. (Leonard N, 2010).

2.3 Business Process Reengineering Strategy

Strategic alignment is a key aspect of strategic change, and the alignment between Business and information technology was critical issue. Cobb J.C., et al, (1998) argued for leadership to overcome the barriers, avoid duplicate effort and gain full utilization of potential.

Rashmi Jain, et al,(2010), illustrated the application of business process reengineering(BPR) and benchmarking principles to achieve continuous improvements.

According to Hammer & Champy, (1993) considered one of the BPR gurus and founder of the term itself, BPR is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed. This definition is one of the most cited ones and can be found in a considerable number of journal articles. Reengineering means starting from scratch, no assumptions given and no current fact accepted and determines firstly what a company has to do, and secondly how to do it. Radical redesign of business processes means getting to the root of things, not improving existing procedures and struggling with sub optimizing. According to Hammer, radical redesign means: disregarding all existing structures and procedures and inventing completely new ways of accomplishing work.

Many companies try to link terms like re-engineering, innovation and redesign to doing any projects for performance improvement. Sometimes these projects are called process redesign, process reinvention or process innovation (Manganelli, 1993).

Broadbent, (1999) added the Business process redesign is a pervasive but challenging tool for transforming organizations. The role of Information technology is significant since it either enables or constrains successful business process reengineering.

Organizational change is a constant challenge in the business world today and plays a significant role for organizational leadership. On a daily basis organizations are challenged to improve their business performance, and take on new and exciting projects, often as a result of a change in strategy or to increase business effectiveness. With change becoming an increasingly important part of what leaders do, current organizational change literature is suggesting that senior management commitment is critical to the success of organizational change efforts(Kathy Cowan, 2009).

2.4 Organization Learning Strategy

Organizational competitiveness is depending upon the use of organizational learning strategy that can uncover dispersed knowledge capable of rendering superior organizational performance.

Hunt (1999). Lopez Perez Susana et al, (2004) mentioned to the existence of four constructs which are integrally linked to the learning process acquisition of knowledge through external sources or internal development: distribution, through which knowledge is spread among all the members of the organization: interpretation, which allows individuals to share and incorporate of their knowledge, which are not common to all of them, gaining in such away shared understanding and coordinating decision taking, and finally organizational memory, which tries to stock knowledge four future use, either in organizational systems designed for this purpose or by means of rules, procedures and systems.

Gupta et al, (2000) stated that organizational learning demands a high degree of commitment at al levels of the organization, which entails a culture that bases its potential on the desire to improve, learn, and shared by all the members of the organization. In addition Senga et al. (1999) pointed out the manager must be willing to lose some of their power and, on the other hand, the individual must be able to take the

risks and responsibilities that they are asked to and to share the failure or success of the project and of the enterprise.

Nonaka I. and Takeuchi, H.,(1995), presented five factors for organizational learning: The factors are acquisition of knowledge, sharing of knowledge, constructing meaning, organizational memory, retrieval of information. Also the learning process in firm will be very wide ranging one involving the obtaining of knowledge from existing organization, the combining of knowledge and generation of new uses for the resources.

Bointis et al, (2002) mentioned to the positive relationship between the stocks of learning at all levels and business performance. Thus the successful organization is one that can assimilate new ideas and transfer these ideas into action faster than competitors.

Markus and Benjamin (1997), Willcocks et al, (1997) mentioned the management information system research has noted that organizational learning processes are increasingly important in identifying successful IT-based investments and creating IT enabled change.

2.5 Total Quality Management Strategy

Total quality management as a holistic management philosophy which strives for continuous organizational improvement. (Kaynak, 2003: 405).

Tallon et al, (2000) pointed out Total quality management strategy involvement empowers employees in regard to IT related decisions. This sharing of knowledge may be the key to sustainable competitive advantage because it leads to more focused IT strategies.

Total quality management(TQM) has been considered as an infrastructural strategy in the operations management research field. It is one of the most recognized models for operational excellence besides lean operation, supply chain management, and technology management. Both manufacturing and service organizations tend to implement this strategy in order to maintain their competitive advantage.(Zakuan, 2010).

Reich and Benbasat, (1996) considered Strategic IT alignment is an organizational learning process that combines business and IT knowledge in order to support business objectives; it can positively affect organizational profitability by creating superior strategies that achieve a competitive advantage. Alignment also includes the set of explicit outcomes contained in the business plan and IT plan.

In addition, total quality management element was explained by Jung Y., Joo and Wang Jain young (2006) as follows: Leadership, employee relations, customer/supplier relations, product/process management. Deming. W,.E.,(1986: 163) Anderson et al, (1995) have pointed out how top management leadership, which can be considered as the most influential TQM element, affects other elements of the organization. The second element employee relations, including empowerment in decision making, proper recognition and compensation, and teamwork. (Ho et al 2001), (Kaynak 2003), (Anderson, 1995).

The third element customer/supplier relations focus on meeting and exceeding customer expectations. (Kaynak, 2003), (Ahire and Dreyfus, 2000).The fourth element product/ process management refer to the extent to which an organization make enhancements in product and process design (Ahire and Dreyfus, 2000), (Kaynak, 2003).

Total quality management is at first glance seen primarily as a change in an organization's technology its way of doing work. In the human services, this means the

way clients are processed the service delivery methods applied to them and ancillary organizational processes such as paperwork, procurement processes, and other procedures. But total quality management is also a change in an organization's culture, its norms, values, and belief systems about how organizations function.

Total quality management (TQM) is a strategy aimed at achieving excellence in organizations. It is the cornerstone of improving productivity, profitability and customer satisfaction in organizations. While a quality performance is imperative to attain the competitive advantage, innovation is the catalyst for further growth. Consequently, it is important to evaluate the appropriateness of TQM for achieving innovation performance. (Satish & Srinivasan, 2010).

Hyde, (1992), Chaudron, (1992) have noted that total quality management results in a radical change in the culture and the way of work in an organization. A fundamental factor is leadership, including philosophy, style, and behavior. These must be congruent as they are presented by a leader. Many so called enlightened leaders of today espouse a participative style which is not, in fact, practiced to any appreciable degree. Any manager serious about embarking on a culture change such as total quality management should reflect seriously on how she or he feels and behaves regarding these factors.

3. **Research Model and Hypotheses**

Business transformation(independent variable) is an overarching concept which include several strategies. These strategies include business process reengineering, organization learning, total quality management in order to enhance strategic alignment maturity criteria (dependent variable). Based on the research model as illustrate in figure (1.0), this research aim to identify the following questions and hypotheses, there are:

What is the relationship between independent variable (business transformation) and its constructs with dependent variable (strategic alignment maturity level) and its constructs in selected Jordanian firms?
What is the level of strategic alignment maturity in selected Jordanian firms?
What is the level of business transformation in selected Jordanian firms?

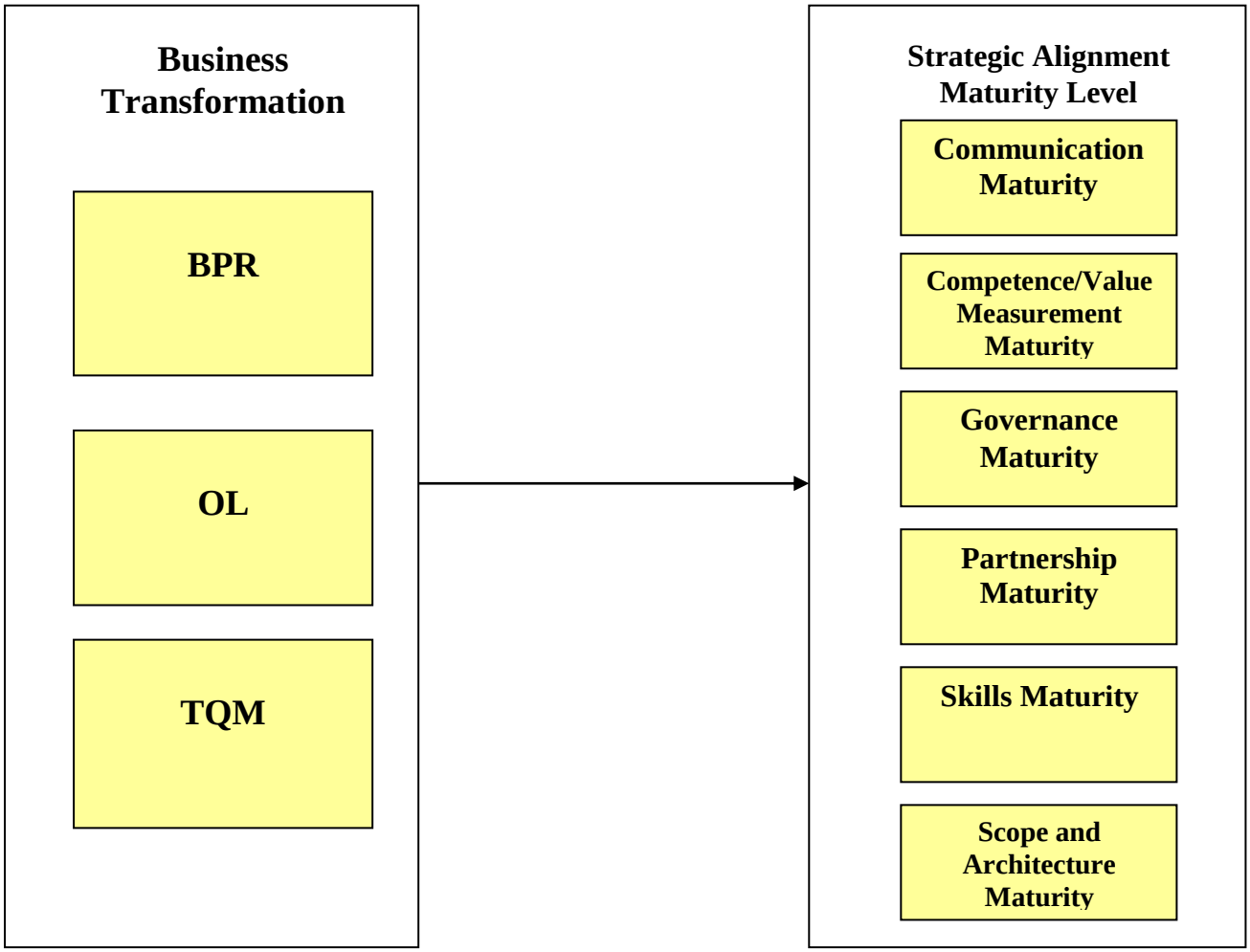

Figure (1.0): Research Model

H1: There is a significant statistical effect of business transformation upon strategic alignment maturity level.
The first main hypothesis includes the following sub hypotheses as follows:
H1a: There is a significant statistical effect of business process reengineering upon strategic alignment maturity level.
H1b: There is a significant statistical effect of organization learning upon strategic alignment maturity level.
H1c: There is a significant statistical effect of total quality management upon strategic alignment maturity level.

4. The Research Methodology

A researcher following the positivism school of thought forms a theory and hypothesis from existing literature, and then gathers relevant data to test and prove that theory. (Smith et al., 2003).

Vreede, (1995) states that positivism is based on the assumption that neutral observation can form a means of proving or disproving pre- standing hypotheses. Researchers who follow the phenomenology philosophy place more emphasis on the opinions and feelings of the subjects under study regarding a particular social phenomenon.

To put these two philosophies in other terms, positivism can be seen as being quantitative research methodology, and the phenomenological approach takes a qualitative angle**.**

Within the study at hand, quantitative approach will be adopted in the collection of data. The researcher has built the current research work firstly on study and analysis of a broad body of existing literature in the field of strategic alignment between business and information technology. Secondly, the researcher has undertaken a survey study by distributing a questionnaire to management staff in selected Jordanian firms. A series of closed questions, all related to the six criteria of luftman. J, (2000: 1-51), were used to gather structured quantitative data to assess the level of strategic alignment maturity and questions related to business transformation concept.

The Population and Sample of the Study

The population of this study is made up of a number of selected Jordanian firms from different sectors of the business world. Selected firms were chosen in preference to small or medium firms as they are more likely to have a strategic alignment between business and information technology, as related in unstructured interviews with CIO's and their management assistants. The population study was defined as top, middle, operational managers of selected large organizations which have more than (500) employees or (selected leading organization).

The purposive sample of this research includes Arab bank and Housing bank for trade and finance from financial sector. Zain Jo, and Orange Jo Company from communications sector. Arab Potash and Jordan Cement Factories Company from industry sector. Finally, national electric power company and Royal Jordanian Airlines from services sector.

4.1 Construct Reliability and Validity

Validity and reliability are considered as the basic criteria for evaluating the accuracy and precision of any research work, as reflected by the research results, are validity and reliability. Validity focuses on how far the researcher has succeeded in measuring the phenomenon he sets out to study. Reliability is concerned with to which extent the findings of the research would be emulated by another researcher who undertakes to study the same phenomenon. (Saunders et al, 2003: 82-98). Thus, researchers repeatedly check the validity and reliability of their findings at every stage of the proceedings.

To check content validity, the first draft of the questionnaire is evaluated by academics specializing in the field of study. Their feedback helps to improve the instrument, building on the pre- validated content which the questionnaire was originally constructed on. Face validity, some times considered a basic and minimum index of validity, is carried out by means of a pre-test and pilot study. Any generated suggestions and recommendations are taken into consideration as the final draft of the questionnaire is formed. Also in the study at hand, the measures used in the generation of data have been judged as good and acceptable.

Concerning reliability test, Cronbach's Coefficient alpha was used in the final stage of the instrument validation process, which is the evaluation of the internal consistency of the factors. Alpha value indicates a higher internal consistency level. The recommended acceptable alpha values are, respectively, (0.60) for exploratory studies and (0.70) for confirmatory research (Hair et al, 2003). This research is of an exploratory nature, and having applied Cronbach's coefficient alpha, the internal consistency of the instrument proved to be of an acceptable and satisfactory level of reliability**.**

Moreover, the criterion convergent validity indicates that all constructs items have significant factor loading of (0.05) or above.

4.2 Construct reliability

Construct reliability can be evaluated by Cronbach's Alpha in order to estimate of construct reliability. Cronbach's Alpha is one of the most widely applied coefficients in evaluating reliability. A high alpha value of close to (1.0) for the corresponding construct represents high reliability**;** Table (1) illustrates internal consistency of the constructs.

Table (1) illustrates internal consistency of the constructs

Constructs	Number of items	Cronbach's Alpha
Communication Maturity	1-4	0.74
Competency and Value Measurement Maturity	5-8	0.77
Governance Maturity	9-12	0.74
Partnership Maturity	13-16	0.76
Skills Maturity	17-20	0.72
Scope and Architecture Maturity	21-24	0.88
Business Process Reengineering (BPR)	25-35	0.92
Organization Learning(organization memory)(OM)	43, 45, 37, 38, 39, 44	0.81
Organization Learning(Knowledge Sharing)(KS)	40, 42, 41, 36	0.73
Total quality Management(TQM)	46-54	0.90

Operationalisation and Measurement of Model Variables

In order to organize the research model, the problem is prepared in terms of hypotheses which can be tested, and the aim is to check the relationship among constructs. Additionally, identification of Operationalisation would be the important issue that is needed to be addressed. Subsequently, The Operationalisation process of the model variables utilized a set of statistical techniques, such as " Extraction Method: Principal Component Analysis". Factor analysis is a generic name denoting a family of statistical techniques primarily concerned with the reduction and summarization of observed variables in terms of common underlying dimensions or factors. The main objective of factor analysis is to obtain a way of condensing the information contained in a number of original variables into a smaller set of variates (factor) with a minimum loss of information (Hair et al, 2003).

Operationalisation of the Independent Variable (Business Transformation) (BT)

This variable deals with exploring the business transformation concept as identified by Ian Mckeown & Georg Philip (2003), which includes several strategies such as: Business Process Reengineering (BPR), Organizational Learning (OL), Total Quality Management (TQM). This variable consists of three constructs as follows:

Table (2) Factor Analysis of (BPR) and (TQM)

Domain Items	Loading	Cumulative %	KMO	Bartlett's test	Significance	Eigenvalues	Alpha
	Factor 1						
BPR27	0.84						
BPR26	0.81						
BPR30	0.78						
BPR33	0.77						
BPR29	0.76						
BPR25	0.75						
BPR31	0.74						
BPR32	0.73						
BPR28	0.71						
BPR34	0.71						
BPR35	0.64						
		56.45	0.93	Chi-square 1450.135	0.00	6.21	0.92
TQM51	0.82						
TQM49	0.81						
TQM53	0.81						
TQM54	0.79						
TQM47	0.76						
TQM48	0.74						
TQM46	0.68						
TQM52	0.65						
		56.49	0.87	Chi-square 1162.479	0.00	5.08	0.90

Referred to Table (2), the factor analysis showed a one factor solution of BPR and TQM constructs. The factor analysis showed clear discriminate validity since all items are loaded on one factor. Loading for the factor was accepted as the out- off point for interpretation purpose. Moreover, a significance level of (0.00) was obtained using Bartlett's sphericity test which suggest that the Interco relation matrix contains sufficient common variance to make factor analysis. Kaiser- Meyer -Olkin (KMO) measure of sampling adequacy was in the acceptable range (Above 0.60).

The reliability of their responses was tested by calculated Cronbach's alpha that is designed as a measure of internal consistency. The measure was found reliable with Cronbach’s Alpha equal, which shows a reasonable reliability for the BPR and TQM.

Factor Analysis of Organization learning (OL)

Table (3) Factor Analysis of Organization learning (OL)

Domain Items	**Loading**		**Cumulative %**		**KMO**	**Bartlett's test**	**Significance**	**Eigenvalues**		**Alpha**
	Factor1	Factor2	Factor1	Factor2				Factor1	Factor2	
OL43	**0.82**									
OL45	**0.72**									
OL37	**0.70**		43.77	11.38		Chi-square		4.378	1.139	
OL38	**0.65**				0.82	839.311	0.000			0.81
OL39	**0.62**									
OL44	**0.54**									
OL40		**0.87**								
OL42		**0.71**								0.73
OL41		**0.59**								
OL36		**0.51**								

Referred to Table (3)**,** the initial factor investigation indicated the existences of dimensions (two factor solution of organization learning). The first six items seen in table (4.0) are principle descriptors of first dimension.

The last four items seen in Table (3) are principle descriptors of second dimension**,** these two dimensions of organization learning are **c**haracterized (Organization learning (OM), referred to organization memory and organization learning (KS), referred to knowledge sharing.

The final factor analysis showed right discriminate validity. Loading for the two factors ranges from (0.51 to 0.87). The accepted guidelines for identifying significant factor loading (0.50) was accepted as the out- off point for interpretation purpose. The average loading for the two factors were (0.68) and (0.67), respectively, showing a clear discriminate validity. These two factors explain (27.6 %) of the total variance. Moreover, a significance level of (0.00) was obtained using Bartlett's sphericity test which suggest that the intercorrelation matrix contains sufficient common variance to make factor analysis. Kaiser- Meyer -Olkin (KMO) measure of sampling adequacy was (0.82) in the acceptable range (Above 0.60).

The reliability of their responses was tested by calculate internal consistency method. The measure was found reliable with Cronbach's Alpha for the two factors equal (0.81) and (0.73) respectively, which shows a reasonable reliability for the OL. The significantly of factor equal (0.00), which means an acceptance for factor analysis.

As the Items loaded on two dimension, organization learning (OM), and organization learning (KS), as indicated by Principal Component Analysis, a summed variable was derived for the six items representing the OM construct to represent the OM variable, and a summed variable was derived for the four items representing the KS construct to represent the KS variable. Therefore the two dimensions are representing the organization learning (OL).

Operationalisation the Dependent Variable of the Research Model (Strategic Alignment Maturity Level) (SAML)

Explanatory factor analysis using principle components method with Varimax rotation was utilized for each criterion of strategic alignment maturity model. This variable consists of six criteria (constructs) as follows:

Table (4) Factor Analysis results of SAML

Domain Items	Loading	Cumulative %	KMO	Bartlett's test	Significance	Eigenvalues	Alpha
	Factor 1	57.09	0.76	Chi-square 206.915	0.00	2.28	0.74
CMC2	0.80						
CMC3	0.79						
CMC4	0.78						
CMC1	0.63						
GMC10	0.84	56.49	0.65	Chi-square 254.103	0.00	2.26	0.74
GMC12	0.76						
GMC9	0.73						
GMC11	0.68						
PMC16	0.84	59.13	0.74	Chi-square 238.960	0.00	2.36	0.76
PMC15	0.78						
PMC14	0.75						
PMC13	0.70						
SAMC20	0.80	55.26	0.75	Chi-square 180.506	0.00	2.21	0.72
SAMC19	0.77						
SAMC18	0.73						
SAMC17	0.67						
SMC23	0.88	73.12	0.82	Chi-square 474.763	0.00	2.92	0.88
SMC24	0.87						
SMC22	0.86						
SMC21	0.81						

Referred to Table (4), the factor analysis also showed a one factor solution of SAML constructs. The factor analysis showed clear discriminate validity since all items are loaded on one factor

The reliability of their responses was tested by calculated Cronbach's alpha that is designed as a measure of internal consistency. The measure was found reliable with Cronbach's Alpha equal, which shows a reasonable reliability for the SAML.

In addition, based on the identification of the research conceptualization and operationalisation constructs the Table (5) illustrates research hypotheses.

Table (5): Research Hypotheses

Hypotheses	Description
H1	There is a significant statistical effect of business transformation upon strategic alignment maturity level
H1a	There is a significant statistical effect of business process reengineering upon strategic alignment maturity level.
H1b	There is a significant statistical effect of organization learning (Organization Memory) upon strategic alignment maturity level.
H1c	There is a significant statistical effect of organization learning (Knowledge sharing) upon strategic alignment maturity level.
H1d	There is a significant statistical effect of total quality management upon strategic alignment maturity level.

5. Descriptive Analysis

The descriptive analysis in this thesis aims to describe the frequencies of all answers that were calculated from demographic variable (Gender, Age, Years of experience, education level, and management level).

5.1 The Sample Description According to Gender, Age, Experience, education level, Management level.

Table (6) Respondents' Gender, Age, Experience, education level, Management level

Gender	Frequency	Percent
Male	174	0.75
Female	58	0.25
Total	232	100.0
Respondents Age		
30 Years or Less	40	17.2
31- 40	112	48.3
41- 50	62	26.7
Above 51 Years	18	7.8
Total	232	100.0
Years of experience of respondents		
4 Years or Less	36	15.5
6- 10	77	33.2
Above 10 years	119	51.3
Total	232	100.0
Education level of respondents		
Higher studies (PhD, Master, Higher Diploma)	32	13.8
Bachelor	171	73.7
College (Junior Diploma)	29	12.5
Secondary school or less	00	0.00
Total	232	100.0
Management level of respondents		
Senior Management	56	24.1
Middle Management	117	50.4
Junior Management	59	25.4
Total	232	100.0

Table (7) the Mean Statistic for the Dependent Constructs of the Study

Constructs	Mean	St Dev
Communication Maturity Criterion	3.77	0.56
Competency and Value Measurement Maturity Criterion	3.72	0.59
Governance Maturity Criterion	3.35	0.63
Partnership Maturity Criterion	3.61	0.58
Skills Maturity Criterion	3.71	0.57
Scope and Architecture Maturity Criterion	3.70	0.70

Reviewing the mean statistics of the main constructs of SAML, most respondents have agreed that a reasonable but not a high level of SAML. Dimensions are found in the researched firms ranging from (3.35 to 3.77) out of 5 levels as illustrated by the previous Table (7). From these results the importance of studying how to enhance these levels is increasing.

Communication maturity criterion acquired the first rank among the other constructs of SAML. This result is compatible with previous studies. The lowest level of these was governance maturity criterion which should be nurtured to enhance this criterion. The diverse means of these constructs considered satisfactory and in good level in selected Jordanian firms.

Table (8) the Mean Statistic for the Independent Constructs of the Study

Constructs	Mean	St Dev
Business Process Reengineering (BPR)	3.65	0.77
Organization Learning(OM)	3.53	0.73
Organization Learning(KS)	3.66	0.80
Total quality Management(TQM)	3.59	0.78

According to the mean statistics of the main constructs of business transformation (BPR, OL (OM), OL (KS), TQM), most respondents have agreed that a reasonable but not a high level of business transformation dimensions. These dimensions are found in the researched firms they work in; ranging from (3.53 to 3.66) out of (5) levels as illustrated by the previous Table (9.0). The results also declared that BPR, OL (OM), OL (KS) and TQM are also found in good levels but not high.

Organization Learning (KS) acquired the first rank among the other constructs of Business transformation. The second rank was acquired by BPR which indicates that a good level. The lowest level of these was Organization Learning (OM). Also From these results the importance of studying how to enhance these levels is increasing. All constructs should be nurtured to eliminate these gaps in order to enhance strategic alignment maturity level.

The survey highlighted the levels of business transformation dimensions and strategic alignment maturity level across the surveyed firms as good as illustrated by the previous Tables.

6. Research Question Testing

The research study tries to answer the following questions which represent a tool to verify Business/IT strategic alignment maturity and the business transformation concept in selected Jordan firms. Testing the research question as follows:

The First Question

What is the relationship between independent variable (business transformation) and its constructs with dependent variable (strategic alignment maturity level) and its constructs in selected Jordanian firms?

Table (9) Pearson's Correlation Coefficient.

	SAML	CMC	CVMC	GMC	PMC	SMC	SAMC
BT	0.59**	0.43**	0.50**	0.34**	0.48**	0.56**	0.59**
BPR	0.61**	0.45**	0.45**	0.45**	0.46**	0.61**	0.57**
OM	0.62**	0.48**	0.46**	0.50**	0.52**	0.56**	0.52**
KS	0.60**	0.41**	0.50**	0.39**	0.51**	0.54**	0.57**
TQM	0.61**	0.40**	0.42**	0.51**	0.51**	0.54**	0.59**

** Significance at 0.01

The correlation between independent variable business transformation (BPR, OM, KS, and TQM) and dependent strategic alignment maturity level (SAML, CMC, CVMC, GMC, PMC, SMC, SAMC) are examined to test the first main question.

From Table (10.0) BT is positively related to SAML with Pearson's correlation coefficient of (r=0.59). The significant value for this correlation coefficient is less than (0.01). Therefore it can be concluded that there is a marked relationship between business transformation (BT) and strategic alignment maturity level (SAML). It can be noticed that organization memory (OM) has the highest correlation coefficient of (r=0.62) with (SAML) among of all. Where as, BT is the lowest correlation coefficient of (r=0.34) with governance maturity criteria (GMC).Therefore, there is appositive relationship between (BT) and (SAML) Based on the Pearson's correlation coefficient values between independent variable constructs and dependent variable constructs.

The Second Question

What is the level of strategic alignment maturity in selected Jordanian firms?

Table (10): Second Question Testing

Sector Level	Communication		Competency and Value		Governance		Partnership		Skills		Scope and Architecture		Level Maturity	Level St Dev
	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Industry	3.88	0.37	3.98	0.49	3.45	0.42	3.90	0.53	3.85	0.51	3.95	0.70	3.83	0.5
Telecommunication	3.94	0.57	3.82	0.52	3.30	0.72	3.70	0.52	3.81	0.56	3.84	0.58	3.73	0.58
Services	3.56	0.47	3.39	0.49	3.02	0.56	3.35	0.51	3.48	0.55	3.35	0.53	3.36	0.52
Financial	3.77	0.72	3.76	0.66	3.67	0.63	3.58	0.61	3.75	0.58	3.75	0.80	3.71	0.67
Criterion Maturity	3.77		3.72		3.35		3.61		3.71		3.70		3.64	
Criterion St Dev		0.56		0.59		0.63		0.58		0.57		0.70		0.57

The previous Table (10) presents a brief comparative view of six criteria of strategic alignment maturity level from the respondent's perspective for each sector. The average of six criteria for all sectors (3.64) represent the strategic alignment maturity level in researched firms of each factor, the final level was rated with(3), as shows the last column in Table(11.0).

Reviewing the final column in the Table (11.0), it depicts that most of the criteria reached a level (3) therefore the analysis provides valuable information in those criteria that require more attention. The firms should establish new mechanisms to monitor the alignment maturity and improve those criteria that require consideration.

The Third Question

What is the level of business transformation in selected Jordanian firms?

Table (11) the Third Question Testing

Sector Level	BPR		OM		KS		TQM		Level Maturity	Level St Dev
	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev	Mean	St Dev
Industry	3.87	0.75	3.73	0.52	3.84	0.86	3.95	0.76	3.85	0.72
Telecommunication	3.48	0.76	3.66	0.69	3.66	0.80	3.42	0.50	3.55	0.69
Services	3.45	0.70	3.22	0.73	3.46	0.82	3.22	0.81	3.34	0.76
Financial	3.80	0.80	3.58	0.81	3.70	0.70	3.82	0.75	3.72	0.76
Construct Level	3.65		3.53		3.66		3.59		3.61	
Construct St Dev		0.77		0.73		0.80		0.78		0.73

Organization Learning (KS) acquired the first rank among the other constructs of Business transformation. The second rank was acquired by BPR which indicates that a good level. The lowest level of these was Organization Learning (OM). Also From these results the importance of studying how to enhance these levels is increasing. All constructs should be nurtured to eliminate these gaps in order to enhance strategic alignment maturity level**.**

7. Hypotheses Testing

As noted above, the key hypothesis is stated as follows: There is a significant statistical effect of business transformation upon strategic alignment maturity level.

The test of hypotheses by using Linear Regression. The value of R square represents the percentage with which the independent variables explain the variation in the dependent variable.

The First Main Hypothesis

H1: There is a significant statistical effect of business transformation upon strategic alignment maturity level.

Table (12) Linear Regression Test of the First Main Hypothesis

Model	Beta	t	R Square	F	Sig
Predictors: (constant) BT	0.59	11.15	0.35	124.29	0.000
Dependent Variable: SAML					

Referred to Table (12) R square= (0.35) which means that approximately (35%) of the variance in strategic alignment maturity level (SAML) is accounted by business

transformation (BT), t value equal (11.15) with significance equal (0.000), which is less than (0.05). Therefore, the result confirms the main hypothesis, which indicates that there is an effect of BT upon strategic alignment maturity level (SAML). Consequently, the independent variable has a significant effect on (SAML)
The test shows there is a positive relationship between (BT) and (SAML), where Beta equal (0.59) (t equal 11.15, sig equal (0.00).

The First Four Sub Hypothesis
H1a: There is a significant statistical effect of business process reengineering upon strategic alignment maturity level.

H1b: There is a significant statistical effect of organization memory upon strategic alignment maturity level.

H1c: There is a significant statistical effect of knowledge sharing upon strategic alignment maturity level.

H1d: There is a significant statistical effect of total quality management upon strategic alignment maturity level.

Table (13): Multiple Regression Test of First Four Sub Hypothesis

Model	Beta	t	R Square	F	Sig	Co linearity Statistics	
						Tolerance	VIF
Predictors: (constant)							
BPR	0.26	5.10			0.000	0.661	1.513
OM	0.23	4.46	0.62	92.43	0.000	0.612	1.633
KS	0.27	5.41			0.000	0.689	1.452
TQM	0.26	5.22			0.000	0.664	1.507
Dependent Variable: SAML							

Referred to Table (1 R square= (0.62)which means that approximately (62 %)of the variance in (SAML) is accounted by (BPR, OM, KS, TQM) t value equal(5.10, 4.46, 5.41, 5.22) with significance equal (0.00), which is less than (0.05). Therefore, the result confirms the first four sub hypotheses, which indicates that there is an effect of (BPR, OM, KS, TQM) upon (SAML). Consequently the independent variable has a significant effect upon (SAML). The test shows there are a positive relation between (BPR, OM, KS, TQM) and (SAML), where Beta equal (0.26, 0.23, 0.27, 0.26).

Multi collinearity was not a serious concern since the variance inflation factor (VIF), as showed in Table (7.15), for all independent variables was below the threshold of 10 (Neter and Kutner, 1990), and a tolerance value above (0.60), hence there is no evidence of multi colinearity among the independent variables (Hair et al. 2003).

8. Results Discussion

The researcher had assumed that there is a significant statistical effect of business transformation upon strategic alignment maturity level**,** and the results of the statistical analysis indicate that business transformation affects significantly upon strategic alignment maturity level. This means that the strategic alignment maturity level will be enhanced by using innovative strategies such as business process reengineering, organization memory knowledge sharing, and total quality management because there are dynamic changes in business environment In addition, there is a

consistency between this result and several studies such as Raj Ramesh, (2007) findings that emphasize the importance of quickly adapting not only to deal with the change, but in many cases to exploit it for competitive advantage.

The enterprise also needs to be agile in prosper in such a competitive climate, and this means that it should be able to transform itself quickly in order to meet the market and customer needs. In addition, all the previous theoretical and empirical studies such as Ian Mckeown & Georg Philip (2003), Hammer & Champy, (1993) indicate that Adopting Business transformation enables the organization to bring about significant improvement and enhancements in business performance. Therefore the business transformation is considered as a prerequisite for making enhancements in strategic alignment maturity which leads finally for enhancing the business performance.

Comparing with Luftman J., (2000) Cobb J.C, et al, (1998), explained that strategic alignment is not just a single event but a continuous journey of transformation and alignment maturity is a key aspect of strategic change that reflects the strong relation between business transformation and strategic alignment maturity level. Organizations that meet many of the characteristics of the attributes in the six Strategic Alignment Maturity criteria for level 3 can be characterized as having established a focused Strategic Alignment Maturity. This level of Strategic Alignment Maturity concentrates governance, processes and communications towards specific business objectives. Hence the need of business transformation was appeared. Finally, the relation ship between business transformation and strategic alignment is supported by several studies such as Chan & Huff, (1993), Luftman, Lewis & Oldach, (1993, Faltermayer,. E., (1994), those authors pointed out the alignment of IT and business strategy to incorporate the capabilities of IT and to transform the business has increased in importance as organizations strive for competitive advantage in a diverse and changing marketplace. Therefore there has been a significant amount of researches tried to link between business and IT (Chan & Huff, 1993), (Luftman, Lewis & Oldach, 1993), (Faltermayer, 1994).

The results of study are corresponding with Davenport, T.H., (1994), the research illustrates the importance of (BPR) to achieve strategic alignment through reengineering initiatives. Business process reengineering has vital role to achieve dramatic improvement in performance measurements which considered the ultimate goal of strategic alignment maturity. In addition, the results of this study are compatible with some studies such as the research that was introduced by Huang, P. et al, (2004**),** which points out that business process technology has been one of the drivers and enablers of business transformation. This new wave of business transformation aims to achieve a higher level of strategic alignment maturity. Moreover**,** some research studies referred to Grover V, et al (1998), Ward and Griffiths (1996), Ward and Murray (1997) mentioned that information technology is an enabler of business process redesign to achieve dramatic improvements in business performance.

The results of this study are corresponding with the study of Markus and Benjamin, (1997), Willcocks, et al, (1997) has noted that organizational learning processes are increasingly important in identifying successful IT-based investments and creating IT enabled change. Also organizational competitiveness is dependent upon the use of organizational learning processes that can uncover dispersed knowledge capable of rendering superior organizational performance (Hunt, 1999). In addition Reich and Benbasat, (1996) mentioned the strategic IT alignment is an organizational learning process that combines business and IT knowledge in order to support business objectives; it can positively affect organizational profitability by creating superior strategies that achieve a competitive advantage.

The results of this study are corresponding with many studies such as, Alkhaldi, F and Al-faouri, A. (2007) which mentioned that knowledge sharing enhances strategic

alignment and the competitive advantage and there is a positive relationship between supportive knowledge sharing climate and IT/ business strategic alignment enablers. In addition, organization learning (Knowledge sharing) has a good level that contributes to enhance alignment maturity between business and information technology.

Besides, the results of the research that was introduced by Reich and Benbasat, (1996) mentioned that the strategic IT alignment is an organizational learning process that combines business and IT knowledge in order to support business objectives**.** It also can positively affect organizational profitability by creating superior strategies that achieve a competitive advantage. Total management involvement empowers employees in regard to IT related decisions. This sharing of knowledge may be the key to sustainable competitive advantage because it leads to more focused IT strategies (Tallon, et al,. 2000).Besides, Markus and Benjamin, (1997), Willcocks et al, (1997) mentioned the management information system research has noted that organizational learning processes are increasingly important in identifying successful IT-based investments and creating IT enabled change.

The fourth sub hypothesis assumed that there is a significant statistical effect of total quality management upon strategic alignment maturity level**.** The results of the statistical analysis indicate that total quality management affects significantly upon strategic alignment maturity level. This means that the strategic alignment maturity level will be enhanced by applying the total quality management strategy. The results of this study are corresponding with Hyde, (1992), Chaudron, (1992) which have noted that total quality management considered as a change in the culture and the way of work in an organization**.** According to the previous result and researches, TQM was an imperative need for business transformation in order to align business with information technologies due to dynamic changes and developments in the markets. TQM reached a reasonable level but not high in Jordanian firms. Tallon, et al, (2000) pointed out Total management involvement empowers employees about IT related decisions. This sharing of knowledge may be the key to sustainable competitive advantage because it leads to more focused IT strategies.

According to the previous results in this study, all results were at good level and indicated to the positive relationship between the two Variables and between independent variable constructs and dependent variable constructs.

9. Conclusions

Assessing Strategic alignment maturity level should be continuous as a result to the dramatic changes, in business environment, that the firms face. The six criteria of maturity level should be taken into account in order to achieve high level of strategic alignment maturity level. This means that the six criteria (Communication maturity, Competency/value measurement maturity, Governance Maturity, Scope and Architecture maturity, Partnership Maturity, Skills Maturity) should receive a high importance. In order to enhance strategic alignment maturity level, firms must understand the current situation to reach a high level through understanding the gaps between Business and information technology. According to the results of this study, several important implications for practitioners are interested in business transformation. Some of recommendations may assist firms willing to adopt the business transformation to achieve dramatic improvements in performance measurements such as speed, quality, and service delivery. In order to achieve fundamental change in firms' logic, firms must apply business transformation strategies (BPR, OL, TQM) that have a positive impact on strategic alignment maturity. This means that business transformation should receive a high attention.

9.1 Limitations of the study

As with any research; this research has some limitations imposed on it, and the lack of exposure to the private business sector by the researcher is a limitation to this research.

- The concept of business transformation and strategic alignment is considered a relatively new idea. So, there is a lack of available qualitative and quantitative researches between business transformation and strategic alignment maturity level.

The non-probability sampling approach used in this research was purposive sampling because the only firms that participated in the study are those that have business strategic planning and information technology strategic planning. Consequently, the sample cannot claim to be representative, which limits the general ability of the research results on all firms in Jordan. Therefore, the results can be communicated to the participant firms

9.2 Recommendations for Future Research

This study is considered with the initial effort to measure strategic alignment maturity level and its relationship with business transformation concept to understand the relation ship between them. During this effort, several ideas appeared, but they were not part of the study scope. Therefore, the study opens up a number of research opportunities.

- Continuous qualitative and quantitative research on strategic alignment maturity and its relationship with business transformation should be conducted regularly to combine the advantage of quantitative and qualitative methods such as case study to get deep investigation.
- The suggested future research could be devoted to studying the influence of each construct of independent variable on strategic alignment maturity criteria separately and in details in order to give specific results about each dimension and criterion.
- Another suggestion views that the same research should be conducted in the future across a broader sample of Jordanian firms including small, medium and large firms in various industries.

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