ASSESSING THE RELATIONSHIP BETWEEN INFORMATION IT-BUSINESS STRATEGIC ALIGNMENT AND INFORMATION TECHNOLOGY EFFECTIVENESS: AN EMPIRICAL INVESTIGATION IN THE BANK SADERAT IRAN

Dr.Hossein Rezaie Dowlatabadi[1], Mahnaz Khorasani[2*], Mahmoud Khabaz Shirvan[3]
[1]Assistant Professor, Department of Management, Isfahan University, Iran
[2](Correspond Author) MS student in the field of Business Management, Finance*
[3]Doctor of Business Administration Student, National University of Malaysia (UKM)

Abstract
In the recent years all of the banks have become more competitive and they have looked to improve performance and competitiveness. During last decade IT-business strategic alignment and information technology effectiveness have emerged as significant antecedents of organizational performance .This study investigates potential influences of IT-business strategic alignment on information technology effectiveness in the branches of bank Saderat Iran in the Isfahan province. Data were collected by questionnaire and the reliability coefficient of the questionnaire based on Cronbach's alpha coefficient was estimated 0.85. The results support the positive influence of on IT-business strategic alignment on information technology effectiveness.

Keywords: IT-Business Strategic Alignment, IT Effectiveness, BANK Saderat IRAN

Introduction

IT effectiveness and efficiency that support business strategy and process are key factors for a successful enterprise in a dynamic environment (Silvius et al ,2009), In additional researchers have long believed that the proper alignment of IT strategies and business strategies will lead to superior business performance (Zacharia ,2009). achieving IT-business strategic alignment requires the knowledge of information systems strategic orientation and its relationship with business processes and performance (Rajendran & Vivekanandan ,2008) so it is essential to measure the relationship between information IT-business alignment and information technology effectiveness. This study would contribute to the understanding of the relationships between IT-business strategic alignment and information technology effectiveness in the branches of bank Saderat Iran in the Isfahan province. The extended conceptual framework for this study was based on the findings presented by Ness (2005) and (Bani ,2011) .IT-business strategic alignment can be assessed by measuring six components: communications, competency and value measurement , IT governance, IT-business partnership , scope and architecture and skills of IT staff and the major components of IT effectiveness are quality of service, users satisfaction

and helpfulness of IT staff to users . The following section includes a hypotheses and conceptual model about study and in the third the research methodology are being presented. The discussion and conclusions are discussed in the sections 4.

Hypotheses and conceptual model

IT-business strategic alignment

IT is critical resource for companies competing in the global economy of the digital era. Depending on the industry , market and business goals ,it can enable or drive a company's competitive strategy ,in addition IT has become the essential infrastructure of any company (werbach,2005) .To make IT deliver business values beyond supporting daily operations, management needs to plan and execute , not from the technology end , but based on the business strategies (Lufman et al ,2006) The strategic employment of IT and IS has become critical for every business since this enables organizations to alter the basic nature of industries. Their efficient and impact worthy utilization necessitates alignment of the IS/IT strategies with business strategies, business plans, and constant continuous execution for improvement in competitiveness and enhanced productivity. Strategic alignment is critical for achieving continued competitive advantages for any industry. The strategic and successful use of IT is well reflected through the concept of strategic alignment (Jorfi et al,2011) researchers and practitioners have long recognized the importance of IT-business alignment when alignment exists , IT delivers systems and services that are crucial to the company to the company's strategies , operations or users need(Hang & hu ,2007) . Implementation of the company's "Aligning for One" business strategy required alignment with their IT strategies. For an organization to successfully align its IT strategies with its business strategies, specific management practices and strategic IT choices with its business strategies, specific management practices and strategic IT choices leverage the capability of their information technology (Sledgianowski & Luftman,2005) .Strategic Alignment refers to the extent to which the IT mission, objectives, and plans support and are supported by, the organization mission, objectives, and plans. Alignment involves applying information technology (IT) in an appropriate and timely way and in harmony with business strategies, goals and needs(Abareshi,2010). Strategic IT alignment is defined as the degree to which the mission, objectives and plans contained in the business strategy are shared and supported by the IT strategy (Chan, Sabherwal, & Thatcher, 2006). IT-business strategic alignment offers a high degree of connection between IT and business planning; the corporate business strategic plan asserts the objectives of IT in business planning, while the IT strategic plan cites the business strategic plan as its foundation (Hu & Huang, 2006). Different researchers presented various models and variables for measuring IT-business strategic alignment Luftman and Kempaiah (2007) argued that alignment includes interrelated capabilities and can be assessed by measuring six components 1-communications 2-Competency/Value3- information technology governance 4- IT- business partnership 5- scope and architecture 6- skills / competences. Jouriou & Kalika, (2004) believed IT-business strategic alignment can be assessed by measuring three competent: Strategic orientation (Work experience), IT strategy (Integration, ICT infrastructure), Organizational structure (Coordination) and also .In this study the methodology for the measurement of IT-business strategic alignment based on the review of pervious research results and discussions with university executive on the their practices ,we found that such an approach entail the execution five key element (a)

communication (b) Competency/Value (c) information technology governance (d) IT-business partnership (e) Scope and Architecture.

Communication plays an important role in facilitating the innovation processes and is considered as the core feature in new organizational forms. Therefore communication technologies such as email, and EDI can play an important role to facilitate the information flow among people, many of whom may never have met each other (Abareshi et al 2010). Communications Maturity Embodies the effective exchange of ideas within between the IT and business organizations (Ryan,2011).The next criterion for IT-business alignment was competency and value measurement, the strategic alignment maturity describes Competency/Value Measurement as the management practices and strategic IT choices an organization makes when determining the importance and contribution of IT to the firm (Sledgianowski & Luftman ,2005).The third criterion for IT-business alignment was Information technology governance is controlled and coordinated structure in an organization to recognize effective alignment processes(Sledgianowski & Luftman, 2005). In addition, IT governance affects the decision making processes and the coordination of communication processes between IT and business executives (Bani ,2011) .The fourth criterion for IT-business alignment was IT-business partnership , The authors found that organizations which were able to achieve a partnership relationship were able to drive toward more effective solutions . The ability of these two groups to co-adapt and improvise allowed the organization to achieve results of greater value to the company (Ryan,2010) .the fifth criterion for IT-business alignment was Scope and Architecture, The Strategic Alignment Maturity defines Scope and Architecture as the management decisions and strategic choices an organization makes when allocating resources toward its information technology infrastructure, including its reach and range(Sledgianowski & Luftman, 2005). Luftman (2000) believed that scope and architecture describes the breadth to which IT is integrated across the organization as well as with external partners. the last criterion for IT-business alignment was Skills and Competences , Information technology personnel should possess a blend of technical, behavioral, and business and organizational knowledge and skills, especially when bringing together the business and technology sides of an organization (Karlsen et al., 2005) and Human Resource Skills Maturity encompasses all IT human resource considerations (Luftman 2003a,b). So According to the above description the following hypothesis is examined:

H1: In bank Saderat Iran IT-business strategic alignment is more than average.

IT Effectiveness

IT effectiveness and efficiency that support business strategy and process are key factors for a successful organization in a dynamic environment (Silvius et al.,2009). While the project failures of the IT organization continue, the deployment of IT initiatives continues, and a method of understanding the effectiveness construct is necessary. Modern business and information technology are almost indistinguishable and each constituency needs the other to succeed (Drucker, 2002). The crisis facing IT departments has been the result of the inadequate communication skills among senior IT managers that subsequently leads to ambiguous expectations and an unclear purpose of IT within the organization and this relationship problem is an important issue that should be explored further for the benefit of commerce and society despite the difficulty in accurately describing and measuring perceptions and relationships within organizations(McAdams,2006). Business executives and CIOs must accurately identify and

assess the right indicators or predictors of IT effectiveness and how these constructs are correlated with one another, which consequently impacts an enterprise's performance and productivity (Bani,2011). Byrd and Davidson (2006) believed that IT effectiveness directly affects and improves organization performance and productivity. Therefore, it is necessary to understand that IT effectiveness and efficiency can lead to better organization performance .IT effectiveness has been defined as the ability for IT initiatives to facilitate the business goals of the organization(Burke,2011). Therefore IT effectiveness can be defined as the ability for IT to deliver solutions to the requirements of the business (Tallon, Kraemer & Gurbaxani, 2000), or the capability of the IT organization (Peppard & Ward, 2004) to alter its objectives to meet the changes in the business environment (Viklund & Tjernstrom,2008). Ness (2005) has stated that IT effectiveness (ITE) is the degree to which IT can effectively and efficiently deliver services and solutions for the business, Priya et al(2004) has stated that IT effectiveness is a measure of how well an IT organization develops the right technology components of business solutions for its customers , so that the business supported can operate and grow according to its own strategy and plans, work within its own constraints , and behave in its own style. The conceptual framework for the study was based on the findings presented by Ness (2005) and Bani (2011). according to Ness (2005) and Bani (2011) IT effectiveness can be measure by tree components: quality of service (ITE1), users' satisfaction (ITE2), and helpfulness of IT staff to users (ITE3). Here the following hypothesis is examined:

H2 : In bank Saderat Iran IT-effectiveness is more than average
IT-Business Strategic Alignment (SA) and IT Effectiveness (ITE).

The hypothesis that IT-business strategic alignment is positively correlated with IT effectiveness was stated in previous IT empirical studies, and the empirical evidence supported that IT-business strategic alignment was directly related to IT effectiveness and
business value (Beni,2011) Here the following hypothesis is examined :

H3: In bank Saderat Iran IT-Business strategic alignment will exert a positive influence on IT effectiveness.

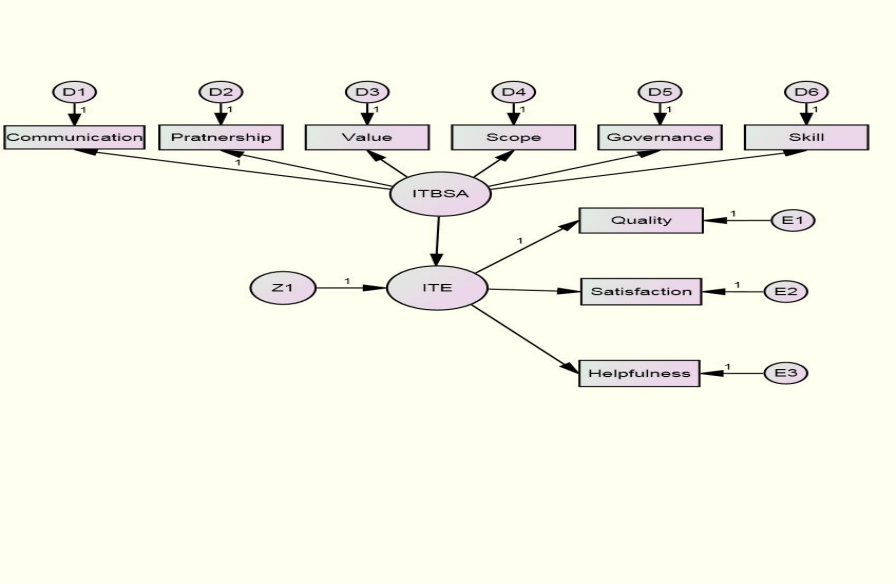


Figure 1: Conceptual Framework Model

3. Method

Sample profile and data collection

A questionnaire was used to collect information from 242 branched of the bank Saderat Iran in the Isfahan province and the population of this study are consist of IT executive managers of the banks, The response rate was 62.18% (N=165) .This study used a ten-part questioner instrument that the questionnaire had 69 questions. The first section gathered general information regarding participant's gender, age, educational degree, organization, and number of years of employment with the company. Table 1 provides the descriptive statistics and demographics of the data collected .All items in nine part of other were measured using multiple items and a five-point, Likert-type scale (ranging from strongly disagree (1) to strongly agree (5) that all they were 62 questions. This instrument addressed IT-Business strategic alignment in six sections: communications, competency and value measurement , IT governance, IT-business partnership , scope and architecture and skill and competence . The first section consisted of Six items (Q1, Q2, Q3, Q4, Q5, Q6) to measure Communication. The second section consisted of eleven items (Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16,Q17) to measure Partnership and the third section contained Seven items (Q18,Q19,Q20,Q21,Q22,Q23,Q24) to measure Value. The fourth section consisted of four items (Q25,Q26,Q27,Q28) to measure Scope. The fifth section consisted of four items (Q29,Q30,Q31,Q32) to measure Governance and the sixth section consisted of six items (Q33,Q34,Q35,Q36,Q37,Q38) to measure skill and competence. Also the instrument addressed IT effectiveness in tree section: quality of service (ITE1), users' satisfaction (ITE2), and helpfulness of IT staff to users (ITE3). The first section consisted of eleven items (Q39,Q40,Q41,Q42,Q43,Q44,Q45,Q46,Q47,Q48,Q49) to measure quality of service .The second section consisted of six items (Q50,Q51,Q52,Q53,Q54,Q55) to measure users' satisfaction and the third section contained seven items (Q56 ,57,58,59,60,61,62) to measure helpfulness of IT staff .The questionnaire is adapted from Bani (2011).

Table 1: Descriptive Statistics and Demographics (N = 165)

	Item	Frequency	Percentage (%)
Gender	Male	67	40
	Female	98	60
Age	19-26	11	7
	27-34	57	34
	42-35	48	29
	43-56	42	25
	67 or Older	7	4
Education	High School Diploma	0	0
	Bachelor Degree	88	53.33
	Master Degree	77	46.66
Years of Service	1 year or less	11	6
	1-5	13	8
	6-9	47	28

	10-13	44	27
	14-20	23	13
	21 years or longer	27	16

Data analysis and results

In the first step for measuring model, each construct was evaluated by measuring its unit-dimensionality, reliability and validity. This study used a panel of experts to determine the concept validity of the modified items in the survey instrument and participants from a local university to participate in a pretest of the survey instrument and the Cronbach Alpha reliability test was conducted on IT Flexibility, connectivity, modularity, compatibility, competency, IT-Business strategic alignment, communications, competency and value measurement , IT governance, IT-business partnership , scope and architecture. to determine the internal consistency across each measure item. According to Vitari et al. (2007), a Cronbach Alpha score over 0.70 represents a reliable factor. To determine reliability, 30 questionnaires were distributed and compiled in a statistical population. The reliability results are presented in Table II.

Table 2: Cronbach Alpha for variables

Dimensions	Cronbach Alpha	Dimensions	Cronbach Alpha
IT-Business Strategic Alignment	.81	Communication	.72
		Value	.86
		Governance	.72
		Partnership	.76
		Scope	.84
		Skill	.82
IT Effectiveness	.72	Quality of Service	.71
		Users' Satisfaction	.73
		Helpfulness of IT Staff	.70

The measurement model was assessed using a confirmatory factor analysis (CFA). Table III shows the results of this test. All questions except Q1, Q5, Q11, Q13, Q18, Q22, Q23, Q32, Q39, Q40, Q41, Q53, Q59 loadings exceed 0.5 .This factors were excluded from analysis because of factor loading less than 0.5. In terms of the average variance extracted, all constructs exceed the suggested value of 0.5 (Bagozzi and Yi, 1988), indicating the measure has adequately convergent validity (see Table 3).

Table 3: scale for variables

Dimensions	Indicators / items	Factor loading
Communication	Q1	. .67
	Q3	.61
	Q4	.54
	Q5	.57
Partnership	Q7	.55
	Q8	.60
	Q9	.55
	Q10	.52
	Q11	.53
	Q12	.67
	Q13	.53
	Q14	.58
	Q15	.60
	Q17	.60
Value	Q18	58
	Q19	.61
	Q20	.57
	Q21	.63
	Q22	.58
Scope	Q26	.63
	Q27	.50
	Q28	.64
Governance	Q29	.68
	Q30	.75
	Q31	.68
	Q32	.61
skill and competence	Q33	.52
	Q34	.55
	Q35	.61
	Q36	.57
	Q38	.54
Quality of Service	Q39	.63
	Q40	.59
	Q42	.54
	Q43	.67
	Q44	.54
	Q45	.61
	Q46	.55
	Q48	.63

	Q49	.58
Users' Satisfaction	Q50 Q51 Q52 Q53 Q55	.67 .56 .52 .55 .68
Helpfulness of IT Staff	Q56 Q57 Q58 Q60 Q61 Q62	.59 .53 .68 .69 .70 .72

After this initial analysis had been conducted, the data was loaded into the SPSS19 and SPSS® Analysis of Moment Structures (AMOS18) statistical package. for evaluating H1 and H2 hypotheses was used one sample t test , the results are presented in Table 4 and Table 5. And for assessing H3 hypotheses was used a structural equation modeling (SEM) as a means to test possible cause-and-effect relationships of the conceptual model.

The one sample T- Test result for first hypotheses (H1) indicate that with respect to T value at 5% error level, the value of IT- business strategic alignment and all its components (communications, competency and value measurement , IT governance, IT-business partnership , scope and architecture) are more than average (t>0 , p=0.000) so the results provide support for H1 (see Table 4)

Table 4: The One Sample T Test for IT-business strategic alignment and its components

Variable	**Sig-t**	**Degree of freedom**	**T**
IT-business strategic alignment	**0.000**	164	9.83
Communications	**0.000**	164	8.48
Competency	**0.000**	164	10.72
Governance	**0.000**	164	10.83
partnership	**0.000**	164	11.31
Scope	**0.000**	164	6.96

As shown in Table 5 the one sample T Test for second hypotheses (H2) indicate with respect to T value at 5% error level, the value of IT effectivness and the component of quality of service , users' satisfaction and helpfulness of IT staff , are more than average (t>0 , p=0.000) ,therefore the results provide support for H2.

Table 5: The One Sample T Test for IT effectiveness and its components

Variable	**Sig-t**	**Degree of freedom**	**T**
IT Effectiveness	**0.000**	164	27.74
Quality of Service	**0.000**	164	16.15
Users' Satisfaction	**0.000**	164	12.61
Helpfulness of IT Staff	**0.000**	164	16.98

The SEM shows the interaction between the theory and the empirical data. In addition, it allows us to test the causal relationships between constructs that feature multiple measurement items (Joresko¨g and Sorbom, 1996). The authors built two-stage model to apply SEM. First the measurement model to perform instrument validation was examined. Then the structural model was used to test the hypotheses (Laura Zapata Cantu´, Josep Rialp Criado and Alex Rialp Criado, 2009).

Structural model: According to Simon and Paper (2007), literature suggested that SEM is an appropriate technique for a model-fit examination, superior to multiple regression analysis. In fact, literature suggested there are seven common measures of model-fit analysis (Levy & Green, 2009). These measures include chi-square/degrees-of-freedom (Chi-square/df); goodness-of-fit index (GFI), adjusted goodness-of-fit-index (AGFI), normed fit index (NFI), information fit index (IFI), comparative fit index (CFI), and root mean squared error of approximation (RMSEA).The results of the analysis are illustrated in Table 6.

Table 6: Summary of the Conceptual Model Tests (N = 165)

X^2/DF	**(IFI)**	**(GFI)**	**(AGFI)**	**(NFI)**	**(CFI)**	**(RMSEA)**
1.81	.95	.94	.89	.84	.95	.076

Structural model .The first step was to obtain the goodness-of-fit of the model hypothesized in Figure 2. X^2/DF (1.81 Less than five) corresponds to a satisfactory adjustment. The other adjusted indices (IFI= .95, GFI = .94, AGFI= .89, NFI = .84, CFI= .95) and the root mean of the index's squared residual (RMSR= .076) are within acceptable ranges. This implies a substantial amount of variance in the model (Bagozzi and Yi, 1988) and fit to the model. The results of the analysis are illustrated in Figure 2.

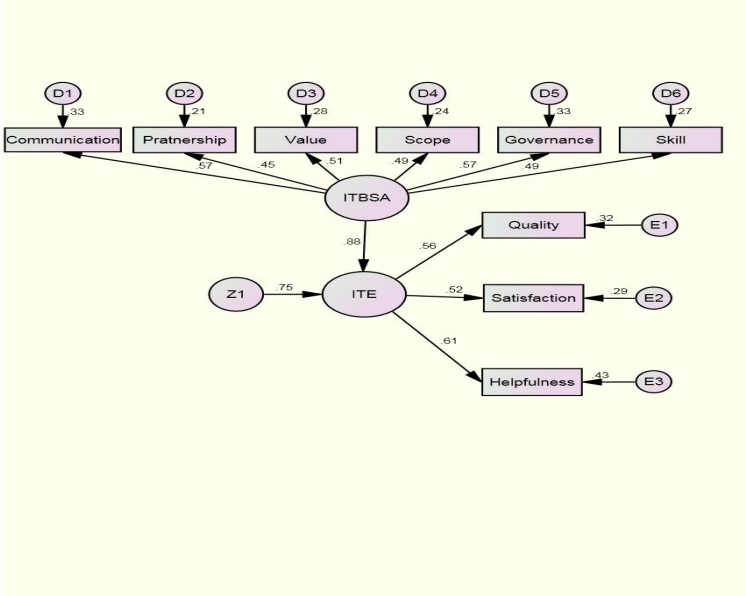


Figure 2 : structural model of the causal relationship between IT-business strategic alignment and IT effectiveness

Path analysis was used to empirically test the conceptual model and provided quantitative estimates of relationships between variables. The findings in Table 6 indicate Maximum Likelihood Estimates for hypothesized path.

Table 6: Maximum Likelihood Estimates for Hypothesized Paths

Path		Estimate	S.E.	C.R.	Significance
ITE ←	ITBSA	.89	.151	5.452	***

Finally Table 7 summarizes the results of the tests of the hypotheses. IT Flexibility had significant relationship with IT-Business strategic alignment, i.e., Research hypotheses was supported.

Table 7: Summary of Hypotheses Results

Hypotheses	Results
IT-Business Strategic Alignment will exert a positive influence on IT effectiveness.	Supported

Discussion and Conclusion

In this study, a conceptual model of the IT- business strategic alignment impact on IT effectiveness was tested. As previously mentioned, the empirical study supported all the hypotheses,the findings of this research are generally consistent with those from previous studies on the relationship between IT- business strategic alignment and IT effectiveness (e.g, Chung et al., 2004; Ness, 2005; Masa'deh et al., 2008; Beni. ,2011) In that to IT- Business strategic alignment is shown to positively related IT effectiveness. Also the research result indicate that

there are IT-business strategic alignment and IT effectiveness in the bank Saderat Iran. Although the study provides insights into understanding the impact of IT- business strategic alignment on IT effectiveness. The primary limitation of this study was the narrow focused on IT executives' perspective and this research relies on surveys to collect data, which is always subject to possible response bias when using a single informant in each organization, However with considering that the majority of respondents are IT executives manager it is likely that these are the only individuals who would be able to provide valid and accurate data on their specific organizations .Anyway with respect to research limitation any generalizations to other sectors must be made with a certain caution.

References

- Bagozzi, R. and Yi, Y. (1988).On the evaluation of the structural equation models. Journal of Academy of Marketing Science, Vol. 16, pp. 77-94.
- Bani.J.(2011). Assessing the relationships among IT flexibility, strategic alignment, and IT effectiveness :An investigation of business intelligence implementation. Burk,M.F.,(2011).IT effectiveness and flexibility versus strategic alignment:Assessing the correlative effects in higher education, A Dissertation Presented in Partial Fulfillment Of the Requirements for the Degree Doctor of Philosophy, Capella University
- Byrd, T. A., & Davidson, N. W. (2006). An empirical examination of a process-oriented IT business success model. Information Technology and Management, 7(2), 55–69.
- Chan, Y. E., Sabherwal, R., & Thatcher, J.B. (2006). Antecedents and outcomes of strategic IS alignment: An empirical investigation. IEEE Transactions on Engineering Management, 51(3), 27–47
- Drucker, P. (2002). Managing the Next Society. New York: St. Martin's Press.
- Huang, C. D., & Hu, Q. (2007). Achieving IT-business strategic alignment via enterprisewide implementation of balanced scorecards. Information Systems Management,24(2), 173-184
- Hu, Q., & Huang, C. D. (2006). Using the balanced scorecard to achieve sustained IT business strategic alignment: A case study. Communication of the AIS, 17, 181-204.
- Joresko¨g, K.G. and Sorbom, D. (1996), LISREL 8: Structural Equation Modeling, Scientific Software International, Chicago, IL.
- Jorfi,S., Nor .M.D., & Najjar.L., (2011).Assessing the impact of IT connectivity and IT capability on IT-business alignment :An empirical study , Computer and Information Science,4(3),76-87
- Karlsen, J. T., Andesen, J., Birkely, L. S., & Ødegard, E. (2005). What characterizes successful IT projects. International Journal of Information Technology & Decision Making, 4(4), 525–540.
- Laura Zapata Cantú, Josep Rialp Criado, Alex Rialp Criado, (2009) "Generation and transfer of knowledge in IT-related SMEs", Journal of Knowledge Management, Vol. 13 Iss: 5, pp.243 – 256.
- Levy, Y. & Green, B. D. (2009). An empirical study of computer self-efficacy and the technology acceptance model in the military: A case of a U.S. Navy combat information system. Journal of Organizational and End User Computing, 21(3), 1–23.
- Luftman, J. N. (2003). Assessing IT/business alignment. Information Systems Management, 20, 9–15.

- Luftman, J. (2003a). Assessing IT/business alignment. Information Systems Management, 20(4), 9-15.
- Luftman, J. (2003b). Measure your IT-business alignment. Optimize, 76-80.
- Luftman, J. N., Kempaiah, K., & Nash, E. (2006). Key issues for IT executives 2005. MIS Quarterly Executive, 5(2), 81-99.
- McAdams,A.C., An investigation of the relationships between users and providers of information technology services for improved IT effectiveness, A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Information Systems, Computer and Information Sciences Nova Southeastern University
- Ness, L. R. (2005). Assessing the relationships among IT flexibility, strategic alignment, and IT effectiveness: Study overview and findings. Journal of Information Technology Management, 16(2).
- Peppard, J., & Ward, J. (2004). Beyond strategic information systems: Towards an IS capability. Journal of Strategic Information Systems, 13, 167-194
- Priya ,k., Was. R., Purushottam,.V.S.(2004). The case for re-examining IT effectiveness, The Journal of Business Strategy ,25(2).29-36
- Rajendran, R., & Vivekanandan, K. (2008). Exploring relationship between information systems strategic orientation and small business performance. International Journal of E-Business Research, 4(2), 14-28.
- Simon, S. J., & Paper, D. (2007). User acceptance of voice recognition technology: An empirical extension of the technology acceptance model. Journal of Organizational and End User Computing, 19(1), 24–50.
- Sledgianowski ,D., Luftman ,J., (2005). IT-business strategic alignment Maturity :A case study , Journal of Cases on Information Technology, 7(2), 102-120
- Sledgianowski, D., Luftman, J., & Reilly, R. (2006). Development and validation of an instrument to measure maturity of IT business strategic alignment mechanisms. Information Resources Management Journal, 19(3), 18-31.
- Silvius, A.J. G., de Waal, B., & Smit, J. (2009). Business and IT alignment; answers and remaining questions. Pacific Asia Conference on Information Systems (PACIS); Association for Information Systems Year 2009. PACIS 2009 Proceedings, 1-16.Paper 44.
- Tallon, P. P., Kraemer, K. L., & Gurbaxani, V. (2000). Executives' perceptions of the business value of information technology: A process-oriented approach. Journal of Management Information Systems, 16(4), 145–173.
- Viklund, K., & Tjernstrom, V. (2008). Benefits management and its applicability in practice: A case study of a benefits management approach. University of Gothenburg, Sweden – Goteburg
- Vitari, C., Moro, J. ,Ravarini, A., & Bourdon, I. (2007). Improving KMS acceptance: The role of organizational and individuals' influence. International Journal of Knowledge Management, 3(3), 68–90.
- Werbach,K.(2005). Using VOIP to Compute .Harvard Business Review, 83(9),140-147
- Zacharia ,Z.G.,Prestone ,D.S., Autry,C.W., & Lamb.C.W.(2009) . IT Alignment with Business Strategies in Healthcare Organizations: An Empirical Analysis . 18(3/4),477-495.