

STRATEGIC ALIGNMENT BETWEEN INFORMATION SYSTEM AND BUSINESS STRATEGY AS PERFORMANCE FACTORS; A REVIEW OF LITERATURE**Basel J. A. Ali¹****ABSTRACT**

The subject of information system (IS) strategic alignment is being widely researched; those factors affecting its placement have not been adequately addressed. How information system technology can help improve firm performance is an important research issue in information systems research and a point of concern for top management. This paper intends to review existing literature, analyses the arguments on the issues of the alignment of Information system (IS) with business strategy in order to enhance business or organizational performance. Various approaches and models to achieve this alignment have been postulated and factors affecting alignment of IS where all reviewed to establish a common ground and differences across the journal papers analyzed. This was achieved through a systematic review beginning with literature search on multiple keywords which includes Management information system, strategic alignment, business or organization strategy and performance, paper selection criteria was then used to select appropriate papers. About 47 papers spread across 26 journals where used in the analysis. Resulted are summarized with the aid of simple descriptive statistics. The findings will provide a clear direction on the strategic importance of management information system as a tool for modern business design and expansion. This will benefit both academics and practice as a model for sustainable business development.

Keywords: Information System (IS), Firm Performance, Business Strategy

I. INTRODUCTION

The job of the management information system (IS) director is center around the organization's information and technology system needs as IS keeps on advancing after some time. Among the capacities performed by a IS chief are the investigations of business issues and the plan and maintenance of computer applications to take care of the association's or organization's issues. How information technology can help enhance firm execution is an essential research issue in information systems research. A noteworthy theory that has been embraced to investigate the issue is the resource-based view (RBV) proposed by Wernerfelt in 1984. The essential contention of RBV is that firm execution is dictated by the resources it possesses. At the point when RBV is applied to analyze the impact of information system (IT), IT is viewed as an organizational resource that can improve organizational capabilities and in the long run prompt higher execution or performance.

In spite of the fact that the utilization of RBV in dissecting IT commitment to firm execution or performance makes a substantial number of papers identified with such methodology have been published, the discoveries are uncertain (Ting-Peng Liang 2009). Executing these functions requires some degree of alignment between the information system and the business strategies. Luftman (2005), gives a practical meaning of alignment by expressing that alignment alludes to essentially utilizing information system IS in a way that is proper to help business needs, strategies and objectives. Based on Newkirk and Lederer (2006), alignment upgrades comprehension of business administration or management, the significance of IS and in the meantime enhancing the comprehension of business objectives and targets by IS managers.

II. BACKGROUND OF THE STUDY

Alignment of Information system and business strategy could either be on a Short term plan or on Long term strategic plan. Information system (IS) is believed to enhance business or organizational performance hence a major concern of management is its alignment with organizational or business strategies. Clashing perspectives exist with respect to whether IS should drive or decide a business methodology or business system should drive IS. Among strategies proposed by some organizations in the need to align their business and IS technique by including the IS staff in their methodology advancement process, while then again others need to let the IS administrator or executives out of the process until the implementation time (Luffman, Lewis, & Oldach, 1993;

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Rathnam, Johnsen, & Wen, 2004/2005). While the subject of business-IS strategic alignment is being increasingly researched, the variables that influence alignment, have to date not been satisfactorily addressed.

While the necessity for alignment between an organizations's IS strategy and business procedure is obvious, the genuine hindrance for strategy alignment seems, by all accounts, to be simply the absence of a business technique. Different obstructions to business and IT alignment incorporate organization structural issues, quick rate of technology change, trouble in conveying and understanding IT, absence of focus on business process reengineering (BPR) and the misalignment between various business regions (Anuja, 2005; Henderson and Thomas, 1992; Henderson and Venkatraman, 1992, 1993).

Various approaches have been suggested to address the issues of alignment from modeling to measurement. One of the main models was SAM – Strategic Alignment Model. Distinctive examinations were done to assess these models. The SAM model was utilized in financial service firms for deciding whether it was valuable to evaluate vital strategic alignment between IT and business. Additionally the general aspects concerning modeling were discussed and a modeling issue was proposed. Specifically, the VMOST – Vision, Mission, Objectives, Strategies, and Tactics – investigation or analysis was treated to split the business strategy into the primary segments of vision, mission, goals, strategies and tactics, and the BRG – Business Rules Group – model was proposed for modeling the organization's systems. Another model is the MDA – Model Driven Architecture – tool which is utilized to help the alignment management, and meta-models were proposed for representing the entities involved in the alignment analysis. This paper aims to review analyses and present the challenges faced by organizations in the application of Information system to enhance performance arising from the effort of aligning the organizations needs with the evolving trends in information system IS and those factors that affects alignment.

III. DESCRIPTION OF THE PAPERS SELECTION PROCESS

Proposed study carried out by scrutinizing published papers on alignment through a systematic literature review. Specifically, a full examination of the research papers concerning alignment was performed. Various journals and conference papers were distinguished by querying search engines to access empirical studies in the area of IS alignment and business or organization's performance using multiple keywords such as management information system, business strategy, alignment and organizational performance. The sample for this research includes empirical studies reported in different IS and IT related journals and conferences in the IS area. Sum of 124 papers were acquired in the preliminary exploration. This includes 111 journal papers distributed within 47 journals and 13 conference papers.

First the conference papers were discarded in order to focus on the journal paper which is expected to reflect more standard work. Two criteria were then applied to screen papers relevant to the study by means of a manual inspection of the papers using the titles and abstract. At first stage, the topic of paper must be IS related and concerned with business or firm performance study, and then the search was focused on papers on alignment of information system with organizational performance. Analysis unit must be organizations rather than individuals. Secondly, the nature of the study was considered where studies that are empirical or field studies with quantitative data were selected. The screening resulted in 47 Journal articles published between 1996 and 2014 and 64 did not fall within the eligibility test as they were not related to the topic hence were discarded.

IV. ALIGNMENT OF BUSINESS STRATEGIES WITH INFORMATION SYSTEM

Strategic alignment on a simple view suggests a relationship between components of an organization such as business strategy, organizational strategy and information strategy, where the organizational strategy and information strategy is being driven by the overall business strategy (SAICSIT 2014). The above postulation buttressed by other researchers' example Pearlson & Saunders (2003), who describes this interrelationship as the 'Information Systems Strategy Triangle', which emphasizes certain benchmarks for accomplishment:

Abdisalam Issa-Salwe et al., 2010: characterized Alignment as the ability to show a positive connection between information systems and the accepted financial measures of performance. According to McBride (2004) Strategic Information Systems Planning has been characterized as a procedure of distinguishing the IS prerequisites of an organization at a high level which is the major concern of top Information system managers.

A standout amongst the most widely utilized models of alignment is the Strategic Alignment Model proposed by Henderson and Venkatraman (1999). This multidimensional model recognizes the internal and external dimensions and how these can be coordinated practically with the organizational procedure. Lederer and Gardiner (1992) depict strategic information systems planning as "the process of identifying a portfolio of computer-based applications that will assist an organization in executing its business plans and realizing its business goals."

The significance of aligning IS strategies with business and organizational strategies to limit dangers of venture disappointment or failure. Strategic alignment is a procedure by which organizations guarantee that an IS can be a solid match for the business methodology or strategy (Zacharia, Z. 2009).

According Johansson, Sudzina, & Pucihar, (2014). Information strategy IS and Alignment between business strategy and has been concentrated on suggesting several explanations to how this alignment effect a firm's performance. This paper give results from an examine of firms in Slovenia about how business people perceived their business strategy and information strategy to be aligned. The paper used questionnaire survey on their perceived alignment between information strategy & business strategy were investigated firms' revenue growth. Result showed that there is a significant relationship between revenue growth & alignment in the country Slovenia, and this relation is positive. Therefore, the relationship between alignment, and the role of information system have not been explicitly examined.

Alignment of IS and FIRM performance

In the above analysis the definition of Alignment, its component, and the views in terms of IS alignment with the business or organization strategy. Models in analyzing strategic alignment were also considered. The overall aim of alignment of IS with business or organizational strategy is to enhance organizational performance at all levels. Hence it is viewed as the capacity to of the alignment to demonstrate a positive relationship between information systems and the accepted financial measures of performance in an organization.

Researcher have paid high considerable attention to the influence of technological diversification on firm performance, research on this relationship has produced mixed findings. To reconcile these inconsistent findings (Lee, Huang, & Chang, 2017).

Study by Ismail & King (2005) examined alignment of accounting information systems on firm performance on Small and also Medium Sized Enterprises in Malaysia. The research used questionnaire, data collected from 310 firms. The results found that a significant of SMEs had achieved high Accounting information system alignment. Also, the group of SMEs with high AIS alignment had effected organizational performance than firms with low using AIS alignment.

Olugbode, M. et al., (2008) in his study titled The Effect of Information Systems on Firm Performance and Profitability Using a Case-Study Approach; posited that there is wide agreement within the company that operational processes within the company became more efficient hence increasing greatly the firm performance. IS alignment also consequently, reduces operating and transaction costs, increased turnover and enhanced profitability.

Ammar, ALmasri and bader (2013) studied; The Effect of Strategic Business Objectives Alignment with Information Management on Enhancing Small Organization Performance; The outcomes from statistical analysis can be depicted as the accompanying: Strategic Alignment will lead the association to better information management: The investigation demonstrates that aligning strategy with Information management will improve the association execution and will give it higher possibilities for business achievement. Better information system will prompt more prominent greater share of the market and significant accomplishments for the organization. The outcome comply with the previous studies in that domain and gives a statistical evidence that support the theory H i (SA→IM).

Business Performance will be improved by well-organized information management. This study found that information management directly affects business performance, this contention straightforwardly support the H ii (IM→BP), better finical achievements need a good infrastructure of information technology systems, such investment will legitimize its cost like labor, software, training, hardware.

Information Management is venture to accomplish Strategic Alignment. This study accomplished a statistically substantial outcome which affirm that improved information management will prompt effectively accomplishing vital business objectives .This outcome concurs with the other specified investigations in this area. Zaho(2008).

Recent research by Afandi (2017) examined the effect of six alignment types described on financial performance of (SME). Research had based on a sample of 454 IT managers & directors, the results of the research found a positive effect of all types of alignment except for IT alignment, although the latter still showed an indirect positive effect through other forms of alignment.

Also research by Lee, Huang, & Chang, (2017) examine the relationship between performance and technological diversification. the research was taken sample covers manufacturing firms in the 2008 Standard & Poor (S&P) 500 index. Data regarding the characteristics and patent information of the sample firms were obtained from Compustat and the US Patent and Trademark Office. The research found that technological diversification has a positive effect on firm performance.

Factors Influencing Alignment

Theme of business-IS strategic alignment is being increasingly researched, the components that influence alignment, have to date not been adequately addressed.

The establishment of solid alignment between information technology (IT) and organizational objectives has reliably been accounted for as one of the key concerns of information systems managers Blaize Horner Reich 2000

Blaize 2000 examined the impact of certain factors on the social dimension of alignment within 10 business units in the Canadian life insurance industry. The social dimension of alignment to the state in which business and IT executives understand and are focused on the business and IT mission, targets, and plans.

He modeled four factors believed to affect alignment viz: (1) shared domain knowledge among business and IT executives, (2) IT implementation success, (3) communication between business and IT executives, and (4) connections between business and IT planning processes.

The outcome shows that All four factors in the model (shared domain knowledge, IT implementation success, communication between business and IT executives, and connections between business and IT planning) were found to impact short-alignment. Only shared domain knowledge found to influence long-term alignment factor, strategic business plans, was discovered impacted equally short and long-term.

Pérez-Aróstegui, Bustinza-Sánchez, Barrales-Molina, (2014) reported IT flexible infrastructure, IT knowledge at the managerial and technical levels, and IT integration in the strategies of the firm. In another, Jorge Orozco et al., (2015) identified three factors; IT investment management, IT project predication and business planning influence ITG architecture. The business planning process was identified as relevant for strategic planning level position, Ammar, ALmasri and bader (2013); likewise placed that to accomplish alignment directors or managers need to uphold organization execution with both their strategies and their company processes.

V. CONCLUSIONS

In light of the difficulties laid out in the presentation of this paper, the discoveries of the exploration uncovered that, business and IS procedures are affected by external variables. The discoveries likewise uncovered that, when the business technique changes, the IS procedure ought to likewise adjust with the end goal to help the recognized business opportunities since that will limit the issue of the IS unit implementing systems which the bank contend that they are not value adding and furthermore not translating into tangible profit benefits or increased performances in the bank. Strategic Information Systems Alignment: Alignment of IS/IT with Business Strategy; by (Abdisalam Issa-Salwe et al., 2010). Using information systems effectively requires an understanding of the organization, management, and the technology shaping the systems (Abdisalam Issa-Salwe et al., 2010). The advances in information systems have impact on our everyday lives. As the innovation is advancing tremendously so are the open opportunities soundly to set up the organization in the competitive advantage environment In order to manage the IS/IT based systems, it is imperative to have a proper technique that characterizes the systems and provide means to manage them. Strategic Information Systems Alignment (SISA) is a successful method for creating maintaining the IS/IT systems that support the business operations.

REFERENCE

1. Adeoti Adekeye, W. B. (1997). The importance of management information systems. *Library Review*, 46(5), 318–327. <https://doi.org/10.1108/00242539710178452>
2. Al-Mamary, Y. H., Shamsuddin, A., & Aziati, N. (2014). Factors Affecting Successful Adoption of Management Information Systems in Organizations towards Enhancing Organizational Performance. *American Journal of Systems and Software*, 2(5), 121–126. <https://doi.org/10.12691/ajss-2-5-2>
3. Avison, D., Jones, J., Powell, P., & Wilson, D. (2004). Using and validating the strategic alignment model. *Journal of Strategic Information Systems*, 13(3), 223–246. <https://doi.org/10.1016/j.jsis.2004.08.002>

4. Thevenet, L., Salinesi, C., Etien, A., Gam, I., Lassoued, M., Sorbonne, C. R. I. U. P., France, P. (2006). Experimenting a Modeling Approach for Designing Organization's Strategies in the Context of Strategic Alignment Return to Published Papers.
5. Afandi, W. (2017). The Impact of Strategic IT-Business Alignment: Evidence from Saudi Private Small and Midsize Enterprises. *International Journal of Business and Social Science*, 8 (10).
6. Odiit, M. C. A., Mayoka, G. K., Rwashana, A. S., & Ochara, N. M. (2014). Alignment of information systems to strategy in the health sector using a systems dynamics approach. *Proceedings of the Southern African Institute for Computer Scientist and Information Technologists Annual Conference 2014 on SAICSIT 2014 Empowered by Technology*, 38:38--38:49. <https://doi.org/10.1145/2664591.2664624>
7. Javier, A., & Alvarez, S. (2004). Challenges to Information Systems Implementation and Organisational Change Management: Insights from the Health Sector in Ecuador. *EJISDC The Electronic Journal on Information Systems in Developing Countries*, 16(6), 1–16. <https://doi.org/>
8. Olugbode, M., Elbeltagi, I., Simmons, M., & Biss, T. (2008). The Effect of Information Systems on Firm Performance and Profitability Using a Case-Study Approach. *Journal of Information Systems*, 11(1), 11–16.
9. Orozco, J., Tarhini, A., Masa'deh, R. (Moh'd T., & Tarhini, T. (2015). A Framework of IS/Business Alignment Management Practices to Improve the Design of IT Governance Architectures. *International Journal of Business and Management*, 10(4), 1–12. <https://doi.org/10.5539/ijbm.v10n4p1>
10. Bani-Hani, J. S., Al-Ahmad, N. M. M., & Alnajjar, F. J. (2009). the Impact of Management Information Systems on Organizations Performance: Field Study At Jordanian Universities. *Review of Business Research*, 9(17), 127–137. Retrieved from <http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=45462891&site=ehost-live&scope=site>
11. Bush, M., Lederer, A. L., Li, X., Palmisano, J., & Rao, S. (2009). The alignment of information systems with organizational objectives and strategies in health care. *International Journal of Medical Informatics*, 78(7), 446–456. <https://doi.org/10.1016/j.ijmedinf.2009.02.004>
12. Alikhani, H., Ahmadi, N., & Mehravar, M. (2013). Accounting information system versus management information system, 2(3), 359–366.
13. Almasri, M., Alsaraireh, J. M., & Dojanah, M. K. (2013). The Effect of Strategic Business Objectives Alignment with Information Management on Enhancing Small Organization Performance. *International Journal of Computer Applications*, 72(3), 24–28.
14. Gutierrez, A., Orozco, J., & Serrano, A. (2009). Factors affecting IT and business alignment: a comparative study in SMEs and large organisations. *Journal of Enterprise Information Management*, 22(1/2), 197–211. <https://doi.org/10.1108/17410390910932830>
15. Al-Ammar, J. (2014). The Strategic Alignment between Knowledge Management and Information Systems Strategy: The Impact of Contextual and Cultural Factors. *Journal of Information & Knowledge Management*, 13(1), 1450006. <https://doi.org/10.1142/S0219649214500063>
16. Satyanarayana Reddy, G., Srinivasu, R., Rikkula, S. R., & Sreenivas Rao, V. (2009). Management information system to help managers for providing decision making in an organization. *International Journal of Reviews in Computing*, 15(1), 1–6. Vol5/1Vol5.pdf
17. Issa-Salwe, A., Ahmed, M., Aloufi, K., & Kabir, M. (2010). Strategic Information Systems Alignment: Alignment of IS/IT with Business Strategy. *Journal of Information Processing Systems*, 6(1), 121–128. <https://doi.org/10.3745/JIPS.2010.6.1.121>
18. Attaran, M. (2004). Exploring the relationship between information technology and business process reengineering. *Information and Management*, 41(5), 585–596. [https://doi.org/10.1016/S0378-7206\(03\)00098-3](https://doi.org/10.1016/S0378-7206(03)00098-3)
19. Lee, C. Y., Huang, Y. C., & Chang, C. C. (2017). Factors influencing the alignment of technological diversification and firm performance. *Management Research Review*, 40(4), 451–470.
20. Smaczny, T. (2001). Is an alignment between business and information technology the appropriate paradigm to manage IT in today's organisations? *Management Decision*, 39(10), 797–802. <https://doi.org/10.1108/EUM00000000006521>
21. Sabherwal, R., & Chan, Y. E. (2001). Alignment Between Business and IS Strategies: A Study of Prospectors. *Information Systems Research*, 12(1), 11–33. <https://doi.org/10.1287/isre.12.1.11.9714>
22. Idris, A. A., Olumoko, T. A., & Ajemunigbohun, S. S. (2013). The Role of Information Technology in Customers' Service Delivery and Firm Performance: Evidence from Nigeria's Insurance Industry. *International Journal of Marketing Studies*, 5(4), 59–71. <https://doi.org/10.5539/ijms.v5n4p59>
23. Tiwana, A. (2012). Novelty-Knowledge Alignment: A Theory of Design Convergence in Systems Development. *Journal of Management Information Systems*, 29(1), 15–52. <https://doi.org/10.2753/MIS0742-1222290101>

24. Baets, W. (1992). Aligning information systems with business strategy. *The Journal of Strategic Information Systems*, 1(4), 205–213. [https://doi.org/10.1016/0963-8687\(92\)90036-V](https://doi.org/10.1016/0963-8687(92)90036-V)
25. Pérez-Méndez, J. A., & Machado-Cabezas, Á. (2015). Relationship between management information systems and corporate performance. *Revista de Contabilidad*, 18(1), 32–43. <https://doi.org/10.1016/j.rcsar.2014.02.001>
26. Aduloju, S. A. (2014). Information Technology Managerial Capabilities and Customer Service Performance Among Insurance Firms in Nigeria. *SAGE Open*, 4(4), 215824401456119. <https://doi.org/10.1177/2158244014561198>
27. Rubens, J., & Filho, A. L. (2005). 1, 2, 3, 4. *Engenharia Agrícola*, 6(2002), 1–4.
28. De Castro, V., Marcos, E., & Vara, J. M. (2011). Applying CIM-to-PIM model transformations for the service-oriented development of information systems. *Information and Software Technology*, 53(1), 87–105. <https://doi.org/10.1016/j.infsof.2010.09.002>
29. Chan, Y. E. (2002). Why Haven't We Mastered Alignment? The Importance of The Informal Organization Structure. *MIS Quarterly Executive*, 1(2), 97–112. <https://doi.org/10.1016/j.jbusres.2015.08.010>
30. Pérez-Aróstegui, M. N., Bustinza-Sánchez, F., & Barrales-Molina, V. (2015). Exploring the relationship between information technology competence and quality management. *BRQ Business Research Quarterly*, 18(1), 4–17. <https://doi.org/10.1016/j.brq.2013.11.003>
31. Hussein, R., Karim, N. S. A., Mohamed, N., & Ahlan, A. R. (2007). The influence of Organizational Factors on Information Systems Success in E-Government Agencies in Malaysia. *The Electronic Journal on Information Systems in Developing Countries*, 29(1), 1–17.
32. Thevenet, L., & Salinesi, C. (2007). Aligning IS to Organization 's Strategy : The I N S T A L Method. *Lecture Notes in Computer Science*, 4495, 203–217.
33. Karim, A. J. (2011). The Significance of Management Information Systems for Enhancing Strategic and Tactical Planning. *JISTEM Journal of Information Systems and Technology Management*, 8(2), 459–470. <https://doi.org/10.4301/S1807-17752011000200011>
34. Rivard, S., Raymond, L., & Verreault, D. (2006). Resource-based view and competitive strategy: An integrated model of the contribution of information technology to firm performance. *Journal of Strategic Information Systems*, 15(1), 29–50. <https://doi.org/10.1016/j.jsis.2005.06.003>
35. Lederer, B. A. L. (1988). The Implementation of Strategic Information Systems Planning Methodologies. *Strategic Planning*, 12(September), 445–462. <https://doi.org/10.2307/249212>
36. Babaei, M., & Beikzad, J. (2013). Management information system, challenges and solutions. *Management Information System, Challenges and Solutions*, 2(3), 374–381.
37. H Atkins, M. (1994). Information technology and information systems perspectives on business strategies. *The Journal of Strategic Information Systems*, 3(2), 123–135. [https://doi.org/10.1016/0963-8687\(94\)90012-4](https://doi.org/10.1016/0963-8687(94)90012-4)
38. Horner Reich, B., & Benbasat, I. (2000). Reich & Benbasat/Alignment Between Business and IT Objectives factors that influence the social dimension of alignment between business and information technology objectives1 Reich & Benbasat/Alignment Between Business and IT Objectives. *MIS Quarterly*, 24(1), 81–113.
39. Gleeson, M. (2004). The link between business strategy and information systems. *Strategy*, 1–20. Retrieved from http://www.comp.dit.ie/rfitzpatrick/MSc_Publications/2004_Michael_Gleeson.pdf
40. Johansson, B., Sudzina, F., & Pucihar, A. (2014). Alignment of business and information strategies and its impact on business performance. *Journal of Business Economics and Management*, 15(5), 886–898.
41. Segars, A. H., & Grover, V. (1998). Measurement Strategic Information Systems Planning Success : An. *MIS Quarterly*, 22(2), 139–163.
42. Jordan, E., & Tricker, B. (1995). Information strategy: alignment with organization structure. *Journal of Strategic Information Systems*, 4(4), 357–382. [https://doi.org/10.1016/0963-8687\(95\)80004-A](https://doi.org/10.1016/0963-8687(95)80004-A)
43. Cale, E. (1998). Aligning Information Systems and Business Strategy: A Case Study. *Journal of Information Technology Management*. Retrieved from <http://jitm.ubalt.edu/IX-1/article1.pdf>
44. Kearns, G. ., & Lederer, A. (2000). The effect of strategic alignment on the use of IS-based resources for competitive advantage. *The Journal of Strategic Information Systems*, 9(4), 265–293. [https://doi.org/10.1016/S0963-8687\(00\)00049-4](https://doi.org/10.1016/S0963-8687(00)00049-4)
45. Lederer, A. L., & Hannu, S. (1996). Toward a theory of strategic information systems planning. *Thee Journal of Strategic Information Systems*, 5(3), 237–253. [https://doi.org/10.1016/S0963-8687\(96\)80005-9](https://doi.org/10.1016/S0963-8687(96)80005-9)
46. Croteau, A. M., & Bergeron, F. (2001). An information technology trilogy: Business strategy, technological deployment and organizational performance. *Journal of Strategic Information Systems*, 10(2), 77–99. [https://doi.org/10.1016/S0963-8687\(01\)00044-0](https://doi.org/10.1016/S0963-8687(01)00044-0)

47. Chan, Y. E., & Huff, S. L. (1992). Strategy: an information systems research perspective. *The Journal of Strategic Information Systems*, 1(4), 191–204. [https://doi.org/10.1016/0963-8687\(92\)90035-U](https://doi.org/10.1016/0963-8687(92)90035-U)
48. Melville, N., & Kraemer, K. (2004). Information technology and organizational performance: An integrative model of it business value. *MIS Quarterly*, 28(2), 283–322.
49. Hooper, V. A., Huff, S. L., & Thirkell, P. C. (2010). The impact of IS-marketing alignment on marketing performance and business performance. *ACM SIGMIS Database*, 41(1), 36. <https://doi.org/10.1145/1719051.1719054>
50. Aversano, L., Grasso, C., & Tortorella, M. (2010). Measuring the alignment between business processes and software systems. *Proceedings of the 2010 ACM Symposium on Applied Computing - SAC '10*, 2330. <https://doi.org/10.1145/1774088.1774570>
51. Lipaj, D., & Davidavičienė, V. (2013). Informacinių sistemų įtaka įmonės veiklos rezultatams. *Mokslas - Lietuvos Ateitis*, 5(1), 38–45. <https://doi.org/10.3846/mla.2013.06>
52. Ismail, N. A., & King, M. (2005). Firm performance and AIS alignment in Malaysian SMEs. *International Journal of Accounting Information Systems*, 6(4), 241-259.