

MIS Quarterly Research Curation on Information Systems Alignment

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Release Date: March 2019

Updated: September 2023

1. Focus of the Research Curation

The alignment of Information Systems (IS) with the business (i.e., hereafter IS alignment) has been a top managerial concern for over 30 years and remains an ongoing research stream of key interest to the IS discipline. IS alignment¹ represents an emergent process of dynamic interactions and continual adjustments between business and IS across multiple organizational dimensions (e.g., strategic, operational and social) and also organizational levels (e.g., the organization itself, group level, and the individual level) that collectively can potentially result in greater organizational performance (Benbya & McKelvey 2006) (See Figure 1). The goal of this curation is to provide a state of the art perspective on IS alignment research published in *MIS Quarterly* in order to offer a reference point and platform for future research on IS alignment.

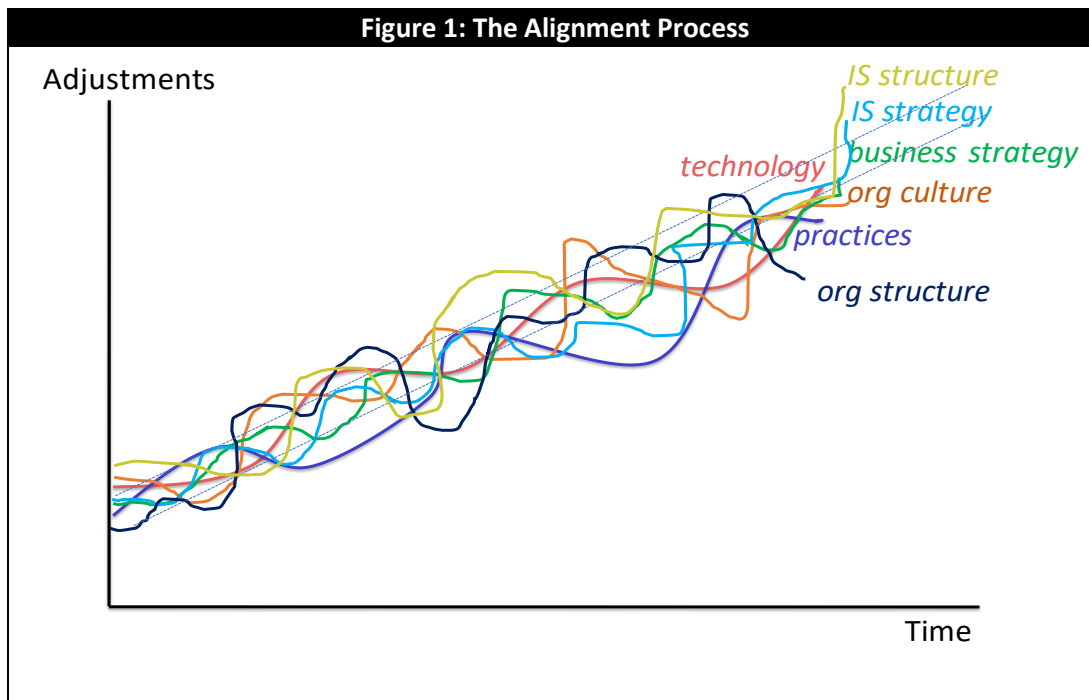
Given the established plurality of meanings embedded in the term ‘alignment’ and multiple ways in which researchers have employed this term to date, in this curation we apply a general selection requirement for our initial pool of research studies. In order to maximize the inclusion of all potentially relevant studies, we used multiple keywords to identify relevant articles for inclusion including: alignment, misfit/fit, linkage/linking, gestalt, congruence, and harmony. This inclusive approach for the search process resulted in 67 articles. The researchers then reviewed the abstracts of each paper for relevance in order to distinguish between articles that focus on “IS alignment” from articles that merely mention the word “alignment” or “fit” in what would be considered a colloquial fashion. For papers where there was some question whether the paper fell under of the umbrella of the IS alignment research stream, the authors collectively made the judgment to reach a decision about inclusion/exclusion of the papers. We sought to include all papers where IS alignment plays an essential role in the study, even if alignment was not necessarily the primary focal point, provided alignment was either a key component of the overall model (e.g., independent, dependent, mediating or moderating variable) or the study clearly suggested a proposition/hypothesis or implications related to IS alignment (please refer to Table 1). Upon conclusion of the screening process, there were 34 articles from the relevant literature base that were determined to be related to the IS alignment research stream published in MISQ from the journal’s inception through July 2023, inclusive.

For the coding process, each researcher proceeded with a detailed examination and coding of

¹ We draw on diverse IS research in conceptualizing and defining IS alignment including Benbya, H. & McKelvey, B. (2006). Using Coevolutionary and Complexity Theory to improve IS Alignment: A multi-level Approach. *Journal of information technology*, 21(4), 284-298 and Benbya, H. & Leidner, D. (2018). How Allianz UK Used an Idea Management Platform to Harness Employee Innovation, *MIS Quarterly Executive*, 17(2), 141-157.

approximately 11/12 of the 34 articles. Beyond collecting basic article information (e.g., author, year, title), we coded for type of alignment, level of analysis, perspective or theory used, research method applied, and key findings/insights (please see Table 2). To ensure consistency in the coding process, each researcher began by coding a common set of 3 papers with a discussion of results among the research team. Any deviations in coding were discussed and assessed among the coders, with the coding heuristics updated to address any such inconsistencies. After this step, consistencies in the coding process were fine-tuned and an inter-coder reliability of 0.95 was achieved. Each researcher subsequently proceeded with coding a designated set of approximately 10 papers.

Of the 34 articles reviewed, we observed the following: a) the vast majority of the papers (27) examined alignment at the organizational level; b) four papers examined alignment at the business unit level (e.g., Reich & Benbasat 2000); c) two papers examined alignment at the group level (e.g., Kane & Borgatti 2011); and d) one study examined multiple units and entities (Leonardi, et al. 2016). We note that there is a diversity of IS alignment research that is reflected both in the methodologies used to study IS alignment as well as the perspectives/theories used to investigate different forms of alignment. As Table 2 outlines, researchers have drawn from a wide spectrum of methodologies: quantitative, including industry surveys (15), qualitative case studies (13), multi-method mixed-studies (2), conceptual studies (2) and meta-analyses (2).



2. Progression of Research in MISQ

The researchers evaluated the temporal progression of IS alignment research in MISQ via three time periods: 1) Prior to 2000, 2) 2000-2010, and 3) 2011-to July 2023.

The earliest research on IS alignment in MISQ appeared in the early to mid-1980s and was largely based on industry reports and surveys. A key finding from the early alignment research was the

discovery that alignment was considered by IS executives to not just be merely a relevant concern, but to be among the leading issues facing IS executives (e.g., Cartog & Herbert 1986). The importance of IS alignment to practitioners would remain a perennial issue in later industry studies (e.g., Niederman, Brancheau & Wetherbe 1991). Researchers initially focused on the relationship of strategic IS planning to IS strategic alignment and investigated multiple dimensions of planning success (e.g., Segars & Grover, 1998). The recognition that IS strategy alone did not create effective alignment subsequently prompted researchers to advocate a shift in focus from exclusively examining the IS strategic dimension to also integrating IS structure (e.g., Tavakolian, 1989; Brown & Magill 1994) and culture (Reich & Benbasat, 1996). To accommodate this shift and investigate different IS structures, strategies, and social dimensions, researchers relied both on quantitative matched pair samples of questionnaires from IS and top business managers, as well as qualitative case studies, starting a trend that would continue to the present.

The study of IS alignment in MISQ has evolved appreciably between 2000-2010. Three main shifts characterize this development of the IS alignment literature in this time frame. First, there was a shift in focus from alignment drivers into the business-IT performance implications of alignment which was demonstrated theoretically (Chen et al., 2011), empirically (Oh & Pinsonneault 2007), and through case studies (Davidson & Chismar 2007). Second, there was recognition that the misalignment of IT capabilities and social structures can result in a failure to realize expected organizational outcomes (Strong & Volkoff 2010). Third, researchers questioned the conception of IS alignment as a linear relationship in which alignment links a set of antecedents to organizational consequences (i.e., Antecedents → Alignment → Consequences) thus recognizing the necessity to embrace a more complex perspective on IS alignment.

Starting 2011, researchers have gradually devised ways to account for the complexity of IS alignment in both their theoretical and empirical work. For numerous years, researchers have tended to emphasize the strategic dimension of alignment (i.e., as an outcome or state), relying mostly on contingency theories in which IS strategy profiles are developed to conform to a particular business strategy type from which a stable alignment state is derived. However, this view can lead to excessive rigidity and conditions of misalignment, because it does not substantially account for the possibility of a complex, dynamic and unpredictable competitive environment (e.g., Tallon & Pinsonneault, 2011; Chen et al., 2010; Gerow et al., 2014). To account for this increased awareness, IS alignment researchers gradually started to include contextual factors in their studies, including environmental characteristics (e.g., environmental volatility, dynamism, munificence and complexity) (Xue, Ray & Sambamurthy, 2012), and the firm's ability to adapt and respond to environmental change (e.g., IT flexibility, agility) (Tallon & Pinsonneault, 2011). This recognition has also resulted in the adoption of a richer application of theories (e.g., typological theory, configurational theory, and complex adaptive systems) to help explain the development of IS alignment and other related outcomes such as IS appropriation and IT business value (e.g., Banker, Pavlou & Luftman, 2011; Guillemette & Paré 2012; McMaren, Yuan & Chan 2011; Leonardi et al. 2016). In more recent years, there has also been specific focus examining the nature of how different dimensions and subcomponents of alignment influence firm performance (Sabherwal & Jeyaraj, 2015; Sabherwal, et al, 2019; Chau, 2020).

3. Thematic Advances in Knowledge

Three main themes emerge from our analysis of the articles: (1) IS alignment conceptualization, (2) IS alignment antecedents, and (3) IS alignment/misalignment consequences. We note that

alignment has been defined via various terms such as: the degree of fit and integration, linking IT and business, etc. (see table 1). This breadth of definitions pertaining to alignment implies that alignment can assume multiple forms. Researchers have gradually converged toward three main dimensions: a) strategic, b) operational, and c) social.

Research on strategic alignment is overall the most dominant perspective and focuses on how to align IS strategy with the organization's business strategy to derive a greater strategic use from IS and thereby generate greater organizational performance (e.g., Oh & Pinsonneault 2000; Gerow et al., 2014; Wu et al., 2015). This sub-theme has advanced knowledge with regard to the role of strategic planning styles (e.g., Pyburn, 1983; Cartog & Herbert, 1986), the dimensions of planning success (Segars & Grover, 1998), and the development of different IS strategy profiles, typologies and configurations to better align IS and business strategy (e.g., Chen et al., 2010). Despite the progress made within this research theme, it has been critiqued based on several issues. First, the assumption that IS strategy should have to conform to the organization's business strategy has been questioned and has since gradually given way to a bidirectional and co-evolutionary perspective between IS and business strategy in which both strategies develop iteratively and reciprocally over time. Second, the conception of IS strategy as a planned or intended strategy has evolved towards that of a realized strategy or an assessment of both planned and realized strategies (e.g., McLaren et al., 2011). Third, the conception of IS alignment as a static outcome has gradually shifted towards that of a dynamic emergent process (See Figure 1 above).

Research on operational alignment has focused on the ability of management to integrate IS infrastructures with the business processes within the organization. Research within this sub-theme has specifically examined the way to best align different IS structures with specific organizational contexts (e.g., Brown & Magill 1994), the interplay between structural change and alignment (e.g., Majchrzak et al., 2000), and the formal organizational structural mechanisms that need to be incorporated in order to reduce cases of misalignment (e.g., Wu et al., 2015).

Finally, the social alignment sub-theme focuses on values, communications, and shared understanding among business and IT executives (Reich & Benbasat, 1996). The few existing studies in MISQ in this domain have advanced knowledge relevant to the effects of shared domain knowledge on communication between IS and business executives and its influence on short- and long-term social alignment (Reich & Benbasat 2000). The studies on social alignment, however, have not investigated the impact of social alignment on downstream performance.

These advances in construct conceptualization – as we move from planned to actual strategies for a range of different strategies and dimensions (operational and social) – have been accompanied by the development of theories to account for the complexity of IS alignment, whether at a single level of analysis (e.g., at the individual, group, or organizational level) or across-levels of analysis. Research has also recognized the necessity to move from a single or dyadic relationship towards multi-level research to understand the non-linear interactions between alignment dimensions that might be operating simultaneously over time.

The IS alignment/misalignment antecedents theme has contributed a myriad of factors believed to influence alignment. For instance, Wu et al. (2014)'s study proposes a series of governance mechanisms (e.g., decision-making structures, formal processes, and communication approaches) that act as antecedents to the intellectual dimension of alignment and also mediate the relationship between alignment and organizational performance. In addition, Banker et al. (2011) demonstrate

that the alignment between the firm's CIO reporting structure and its strategic positioning affects firm performance. Furthermore, Leonardi et al. (2016) found that social and financial rewards encouraged actors to appropriate system elements allowing for local alignment in multiple settings. Other studies have focused instead on misalignment between an organization's social structures with its technology capabilities. Such studies document discrepant events and show how changes to structures reduce misalignment over time (Majchrzak et al., 2000; Davidson & Chismar 2007).

Finally, research on the consequences of IS alignment/misalignment have advanced knowledge regarding how to cultivate alignment between business and IT dimensions resulting in such key organizational outcomes as competitive advantage, business performance, quality improvement, cost reduction, and revenue growth (e.g., Daniel et al., 2010; Oh & Pinsonneault, 2007; Rai et al., 2015). Findings within this stream have extended our understanding of how misalignment occurs and in turn shapes a variety of other IT related phenomena such as IT organizational awareness (Spears & Barki, 2010) and outsourcing performance (Mani, Barua & Whinston, 2010). Despite these advances in the literature, no universal evidence concludes to date that alignment has direct or positive performance implications. To help flesh out the alignment-performance 'paradox', Gerow et al. (2014) conducted a meta-analysis of empirical papers on the IS alignment-performance relationships. This research concluded that the alignment—performance relationship is positive across studies; however, the relationship between strategic alignment and firm performance was found to be negative in some situations. This may occur, for example, when an organization diverts such extensive resources into the strategic planning process that it inadvertently loses focus on actual performance or when an organization only aligns strategy at the highest managerial level and fails to engage middle and operational managers in the strategy. These results suggest that a complex relationship exists between alignment dimensions and business value.

4. Cross-Cited References Across MISQ Curations

We examined each of the cross-cited references in each of the 14 other MISQ curations – summarized in Table 3. For the IS Alignment curation, we found that there were only limited cross-cited references in the other curations to date: IS Use (4 cross-citations); IS Control & Governance (2 cross-citations); Health IT, IS Development, IS Sourcing (1 cross-citation). The remaining nine curations do not currently share any cross-citations with the IS Alignment curation. The references within the IS use curation generally address the need for alignment of IS to maximize its effectiveness while the references within IS Control & Governance generally tap into the need for management to facilitate and guide practices to yield benefits from IS alignment. As noted, there are limited cross-cited references to date; however, we expect cross-cited references to expand with time as each of these research streams evolves. It is essential to track the cross-citations across curations as a whole to better understand the intersections with IS alignment.

5. Conclusion

The alignment research has converged to suggest three major conclusions – that there are various forms of alignment, that alignment is dynamic, and that periods of misalignment are beneficial on account of adjustments made. Alignment is of practical importance for organizations wishing to achieve superior performance with IS. Alignment is also becoming a theory in its own right, with the potential to serve as a useful lens through which to view manifold IS phenomenon in the digital age.

Please cite this curation as follows: Benbya, H., Leidner, D. and Preston, D. “Information Systems Alignment,” in *MIS Quarterly Research Curations*, Ashley Bush and Arun Rai, Eds., <https://www.misqresearchcurations.org/blog/2019/3/14/information-systems-alignment>, September 2023.

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Table 1. MIS Quarterly Papers on IS Alignment

| ID | Author(s) | Title | Year Vol. (I.) | Keyword |
|----|--|---|----------------|---|
| 1 | Philip J. Pyburn | Linking the MIS Plan with Corporate Strategy: An Exploratory Study | 1983 7(2) | Linking |
| 2 | Curt Hartog and Martin Herbe | 1985 Opinion Survey of MIS Managers: Key Issues | 1986, 10(4) | IS alignment |
| 3 | Richard Leifer | Matching Computer-Based Information Systems with Organizational Structures | 1988 12(1) | Fit |
| 4 | Hamid Tavakolian | Linking the Information Technology Structure with Organizational Competitive Strategy: A Survey | 1989 13(3) | Linking |
| 5 | Fred Niederman, James C. Brancheau, and James C. Wetherbe | Information Systems Management Issues for the 1990s | 1991 15(4) | IS Alignment |
| 6 | Carol V. Brown and Sharon L. Magill | Alignment of the IS Functions with the Enterprise: Toward a Model of Antecedents | 1994 18(4) | IS Alignment |
| 7 | Blaize Horner Reich and Izak Benbasat | Measuring the Linkage Between Business and Information Technology Objectives | 1996 20(1) | Linkage |
| 8 | Chiara Francalanci and Hossam Galal | Information Technology and Worker Composition: Determinants of Productivity in the Life Insurance Industry | 1998 22(2) | IS alignment, IT-organizational alignment |
| 9 | Albert H. Segars and Varun Grover | Strategic Information Systems Planning Success: An Investigation of the Construct and Its Measurement | 1998 22(2) | IS Alignment |
| 10 | Blaize Horner Reich and Izak Benbasat | Factors That Influence the Social Dimension of Alignment Between Business and Information Technology Objectives | 2000 24(1) | IS Alignment |
| 11 | Ann Majchrzak, Ronald E. Rice, Arvind Malhotra, Nelson King, and Sulin Ba | Technology Adaption: The Case of a Computer-Supported Inter-organizational Virtual Team | 2000 40(2) | IS Alignment |
| 12 | Sandra K. Slaughter, Linda Levine, Balasubramaniam Ramesh, Jan Pries-Heje, and Richard Baskerville | Aligning software processes with strategy | 2006 30(4) | IS Alignment |
| 13 | Christina Soh, M. Lynne Markus, and Kim Huat Goh | Electronic Marketplaces and Price Transparency: Strategy, Information Technology, and Success | 2006 30(3) | IS alignment, Strategic alignment |
| 14 | Wonseok Oh and Alain Pinsonneault | On the Assessment of the Strategic Value of Information Technologies: Conceptual and Analytical Approaches | 2007 31(2) | Strategic alignment |
| 15 | Elizabeth J. Davidson and William G. Chismar | The Interaction of Institutionally Triggered and Technology-Triggered Social Structure Change: An Investigation of Computerized Physician Order Entry | 2007, 31(4) | IS alignment |

| ID | Author(s) | Title | Year Vol. (I.) | Keyword |
|----|--|---|----------------|---|
| 16 | Daniel Q. Chen, Martin Mocker, David S. Preston, and Alexander Teubner | Information Systems Strategy: Reconceptualization, measurement and Implications | 2010 34(2) | strategic alignment |
| 17 | Deepa Mani, Anitesh Barua, and Andrew Whinston | An Empirical Analysis of the Impact of Information Capabilities Design on Business Process Outsourcing Performance | 2010, 34(1) | Fit/misfit |
| 18 | Diane M. Strong and Olga Volkoff | Understanding Organization–Enterprise System Fit: A Path to Theorizing the Information Technology Artifact | 2010, 34(4) | Fit/misfit |
| 19 | Janine L. Spears and Henri Barki | User Participation in Information Systems Security Risk Management | 2010, 34(3) | IS Alignment |
| 20 | Rajiv D. Banker, Nan Hu, Paul A. Pavlou, and Jerry Luftman | CIO Reporting Structure, Strategic Positioning, and Firm Performance | 2011 35(1) | IS Alignment |
| 21 | Paul P. Tallon and Alain Pinsonneault | Competing Perspectives on the Link Between Strategic Information Technology Alignment and Organizational Agility: Insights from a Mediation Model | 2011 35(2) | Strategic Alignment |
| 22 | Gerald C. Kane and Stephen P. Borgatti | Centrality–IS Proficiency Alignment and Workgroup Performance | 2011 35(4) | IS Alignment |
| 23 | Tim S. McLaren, Milena M. Head, Yufei Yuan, and Yolande E. Chan | A Multilevel Model for Measuring Fit Between a Firm's Competitive Strategies and Information Systems Capabilities | 2011, 35(4) | Fit |
| 24 | Manon G Guillemette and Guy Pare | Toward a New Theory of the Contribution of the IT Function in Organizations | 2012 36(2) | IS Alignment |
| 25 | Ling Xue, Gautam Ray, and Vallabh Sambamurthy | Efficiency or Innovation: How Do Industry Environments Moderate the Effects of Firms' IT Asset Portfolios | 2012 36(2) | IS Alignment |
| 26 | Jennifer E. Gerow, Varun Grover, Jason Thatcher, and Philip L. Roth | Looking Toward the Future of IT-Business Strategic Alignment through the Past: A Meta-Analysis | 2014 38(4) | Alignment, business–IT strategic alignment, alignment paradox |
| 27 | Shelly Ping-Ju Wu, Detmar W. Straub, and Ting-Peng Liang | How Information Technology Governance Mechanisms and Strategic Alignment Influence Organizational Performance: Insights from a Matched Survey of Business and IT Managers | 2015 39(2) | Strategic alignment |
| 28 | Arun Rai, Ilgaz Arıkan, Jessica Pye, and Amrit Tiwana | Fit and Misfit of Plural Sourcing Strategies and IT-Enabled Process Integration Capabilities: Consequences of Firm Performance in the U.S. Electric Utility Industry | 2015, 39(4) | Fit/misfit |
| 29 | Rajiv Sabherwal and Anand Jeyaraj | Information Technology Impacts on Firm Performance: An Extension of Kohli and Devaraj (2003) | 2015, 39(4) | Linkage |
| 30 | Paul M. Leonardi, Diane E. Bailey, Eduardo H. Diniz, Dan Sholler, and Bonnie Nardi | Multiplex Appropriation in Complex Systems Implementation: The Case of Brazil's Correspondent Banking System | 2016, 40(4) | Fit and misfit |

| ID | Author(s) | Title | Year Vol. (I.) | Keyword |
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| 31 | Sunil Mithas and Roland T. Rust | How Information Technology Strategy and Investments Influence Firm Performance: Conjecture and Empirical Evidence | 2016, 40(1) | Linkage |
| 32 | Robert Wayne Gregory, Evgeny Kaganer, Ola Henfridsson, and Thierry Jean Ruch | IT Consumerization and the Transformation of IT Governance | 2018, 42(4) | Alignment and linkage |
| 33 | Rajiv Sabherwal, Sanjiv Sabherwal, Taha Havakhor, and Zach Steelman | How Does Strategic Alignment Affect Firm Performance? The Roles of Information Technology Investment and Environmental Uncertainty | 2019, 43(2) | Alignment and congruence |
| 34 | Dorothy C. K. Chau, Eric W. T. Ngai, Jennifer E. Gerow, and Jason Bennett Thatcher | The Effects of Business-IT Strategic Alignment and IT Governance on Firm Performance: A Moderated Polynomial Regression Analysis | 2020, 44(4) | Alignment and linkage |

| Table 2. Coding Results for MISQ IS Alignment papers | | | | | |
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| Articles | Alignment type | Level of analysis | Theory used | Method | Key Insights on Alignment |
| Pyburn, 1983 | Strategic IT alignment | Firm level | Strategic planning literature | Qualitative (Comparative case study approach whereby the senior IS executive and the top management team (four to six individuals) were interviewed in depth) | Identifies three strategic IS planning styles – personal informal, personal-formal, and written-formal and shows how the success of these approaches depended on 5 factors – the status of the IS manager, the volatility of the business, the complexity of the IS environment, the senior managers’ personal styles, and the physical proximity of the IS manager to the senior managers. Suggests that strategic IS planning is the key to alignment, but planning need not be formal and/or written and in some cases, the latter can militate against effectiveness (e.g., highly volatile environments or environments with complex IS). |
| Cartog and Herbert, 1986 | Aligning the MIS organization (MIS must closely support corporate business goals rather than pursuing an Independent "support" role) | Firm level | Survey of key issues. | 100 responses from 63 different companies (IS managers and CSDP managers). 14 interviews | Planning and aligning MIS with the business goals were the top two issues rated of highest importance. Findings suggest that planning is closely tied to aligning MIS with the business goals. Alignment is one-way (from business to IS and not vice versa). Evidence for the corporate orientation of MIS management can be seen in the low rankings for newer or more technical issues, such as expert systems and decision support systems. The results also reveal that MIS management is closely attuned to the broader corporate context. |

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| Leifer, 1988 | IT Structural Alignment | largest organizational unit | organizational forms as defined by Mintzberg (1979): simple structures, machine bureaucracies, professional bureaucracies, divisionalized forms, adhocracy | Conceptual | Suggests that CBIS should fit the existing structure and should not change structure. Natural matches exist between predominant CBIS configuration and organization structure. But in some cases, it may be best to implement a system that is not matched to the organization, resulting in new organizational activities that yield increased strategic or competitive advantages. |
| Tavakolian, 1989 | Fit of IT structure to organization's competitive strategy | Firm level | Miles & Snow's typology of organizational strategy – defenders, prospectors, reactors, analysers. | Quantitative (52 matched pairs of questionnaires from IT managers and presidents of large companies (500 employees or more) in a single industry (computer-components industry)) | Suggests that the IT structure is strongly related to competitive strategy, and specifically that the degree of centralization of IT activities is significantly related to competitive strategies. Different IT structures seem to fit different competitive strategies in current practice: a conservative competitive strategy exerts pressure for the centralization of IT responsibilities, while an aggressive competitive strategy exerts pressure for the decentralization of IT responsibilities. |
| Niederman, Brancheau, and Wetherbe, 1991 | IS organization alignment and IS structure alignment, mainly centralized and decentralized | Firm level | Survey of key issues | Descriptive (reports on the SIM key issues Delphi survey) | Finds that aligning the IS org with the Enterprise was ranked the 7 th most key issue in IS management whereas strategic planning ranked 3 rd so there was not necessarily a connection between the two. Suggests that inappropriate alignment can impede effective IS strategic planning and classify alignment as a management, not technology issue, as a control, not a planning, function and as external, not internal, to the IT function. |

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| <p>Brown and Magill, 1994</p> | <p>IS structural alignment with the organization</p> | <p>Firm level</p> | <p>Contingency theory and gestalt theory.</p> | <p>Qualitative (Case study research in six large Fortune 500)</p> | <p>Suggests antecedents for a firm's IS structure classified according to two factors based on gestalt theory – external environment and overall organization and two characteristics of the IS infrastructure: IS organization and IS investment. Uncover the antecedents for highly decentralized and highly centralized IS structures; for changing from a centralized to a hybrid IS structure; for recentralizing from a hybrid IS structure. Findings provide evidence that the majority of IS structure changes are made to better align responsibilities for the IS functions with characteristics of the overall organization.</p> |
| <p>Reich and Benbasat, 1996</p> | <p>The social dimension of linkage</p> | <p>Business Unit</p> | <p>Draws on Horovitz's (1984) distinction between the intellectual and social dimensions of the process of strategic business planning</p> | <p>Qualitative (10 business units within 3 large Canadian life insurance companies. 57 interviews with 45 informants).</p> | <p>Suggests measures for short and long-term social linkage including understanding of current objectives" and "congruence in IT vision plus "self-reports". It concludes that shared vision for IT is a good potential measure for long-term linkage and that some organizations can operate quite satisfactorily without high levels of both long- and short-term linkage.</p> |
| <p>Francalanci and Galal, 1998</p> | <p>Alignment of IT investment with worker composition</p> | <p>Firm level</p> | <p>Organizational imperative view, information processing and agency theory</p> | <p>Quantitative (multiple datasets including compustat, a company database and data on publicly traded companies).</p> | <p>Suggests three hypotheses linking IT investments and increases in productivity and finds that increases in IT investments alone have a negative impact on productivity. That is, companies that increase their IT expenses without simultaneously altering their workforce composition are likely to obtain a negative impact on productivity.</p> |

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| <p>Segars and Grover, 1998</p> | <p>Planning alignment as a first order construct of SISP effectiveness</p> | <p>Firm level</p> | <p>IS strategic management literature</p> | <p>Quantitative (survey of 550 individuals listed in the East Edition of the Directory of Top Computer Executives)</p> | <p>Suggests that planning objectives associated with (1) aligning IS strategies with organizational strategies, (2) understanding the processes, procedures, and technologies of the business, and (3) gaining the cooperation of various management and end-user groups provide a useful framework for structuring desired outcomes of strategic IS planning. Therefore, the study suggests a multidimensional conceptualization of planning success.</p> |
| <p>Reich & Benbasat, 2000</p> | <p>Social Dimension of Alignment Short-term alignment Long-term alignment</p> | <p>Business Unit</p> | <p>Extracted constructs from prior research.</p> | <p>Qualitative (10 business units studied using interviews over 12 months).</p> | <p>Suggests social antecedents of alignment and their effect on short-term and long-term alignment. Shared domain knowledge influences long-term alignment. Shared domain knowledge and implementation success influence communication between IT and business execs, which in turn influences short-term alignment.</p> |
| <p>Majchrzak, Rice, Malhotra, King and Ba, 2000</p> | <p>Alignment between organizational environment, group structure, and new technology spirit and features</p> | <p>Group level</p> | <p>Structuration Theory</p> | <p>Qualitative (Case study of a virtual team over the course of 10 months; private interviews with each of the 8 team members at 7 points in time).</p> | <p>Investigates how a team experienced significant misalignment. The process was not one of initial misalignment gradually reduced to alignment and successful performance, but of initial misalignment, immediately reduced to (presumed) alignment, followed by discrepant events creating modifications to structures that created new misalignments, followed by further changes to structures to reduce misalignments</p> |

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| <p>Slaughter, Levine, Balasubramani Jan Pries-Heje, and Baskerville, 2006</p> | <p>Alignment in a firms' strategies and production processes in software development.</p> | <p>Business Unit</p> | <p>No overarching theory applied.</p> | <p>Qualitative (case studies were conducted in 9 firms various industries).</p> | <p>Develops concept maps for the firms that are in alignment and provide explanations on why some firms are misaligned. The concept maps provide insight on how managers can configure specific product and process dimensions to derive alignment. The findings also outlined the potential reasons some firms are misaligned.</p> |
| <p>Soh, Markus, and Huat Goh, 2006</p> | <p>Alignment among strategy, price transparency, and performance of Electronic Marketplaces (EMPs)</p> | <p>Organizational level (EMP)</p> | <p>Porter's theory of competitive advantage; and the resource-based view.</p> | <p>Quantitative (19 EMPs in the electronic components industry)</p> | <p>Examines the nature of two differentiated EMPs (one high price transparency and one low price transparency) – and how these two different EMPs achieved strategic alignment of activities and resources and provided compensatory benefits for their customers.</p> |
| <p>Oh and Pinsonneault, 2007</p> | <p>Strategic Business–IT Alignment (represented by alignment between business strategy and the portfolio of IT systems) 1) Cost Reduction; 2) Quality Improvement; 3) Revenue Growth</p> | <p>Organizational Level</p> | <p>1) The Resource-Centered Perspective of the Strategic Value of IT 2) The Contingency Perspective of the Strategic Value of IT</p> | <p>Quantitative (Matched survey data collected from the CEOs and CIOs of 110 Canadian small and medium-size firms in the manufacturing industry).</p> | <p>Compares two conceptual (resource-centered and contingency-based) and two analytical (linear and nonlinear) approaches to assess the strategic value of IT. Suggests that the contingency approach is better at explaining the impact of cost related IT applications on firm performance. On the other hand, the resource-centered perspective has a stronger predictive ability of IT impact on firm revenue and profitability.</p> |
| <p>Davidson and Chismar, 2007</p> | <p>Alignment is conceptualized in terms of aligning an organization's social structures with its technology capabilities</p> | <p>Organizational Level (single firm study)</p> | <p>Barley's (1990) model for the alignment of technology and social structure</p> | <p>Qualitative (Interpretive field study of a single hospital's experiences with a Computerized Physician Order Entry CPOE system)</p> | <p>Examines how institutionally triggered and technology-triggered change interacted in complementary processes to engender alignment. Social structure changes included increased interdependency among clinical departments, multidisciplinary cooperation across clinical disciplines, and standardization in clinical decision-making. Organization members also</p> |

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| | | | | | enacted institutionalized interaction patterns with physicians by deferring to their preferences for CPOE use. |
| Chen, Mocker, Preston, and Teubner, 2010 | 3 concepts of IS strategy as it relates to the organization (1) IS strategy as the use of IS to support business strategy; (2) IS strategy as the master plan of the IS function; and (3) IS strategy as the shared view of the IS role within the organization | Organizational Level (concepts also potentially apply to Business Unit) | 1) Strategic Management Literature 2) IS Strategy Literature 3) IS Strategic Alignment Literature | Conceptual | Develops propositions to link 3 conceptualizations to strategy and IS strategic alignment. Proposition 2a: For IS innovators, IS strategy is well positioned to drive business strategy. Proposition 2b: For IS conservatives, business strategy is well positioned to drive IS strategy. |
| Mani, Barua and Whinston, 2010 | Fit between information requirements and design of information capabilities across business process outsourcing (BPO) exchanges | Organizational level | Information Processing View (IPV) of the firm | Quantitative (Survey data on 127 active BPO relationships) | Suggests that the degree of alignment (i.e., fit) between design of information capabilities and information requirements leads to heterogeneous performance effects within BPO exchanges. |

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| <p>Strong and Volkoff, 2010</p> | <p>Alignment in terms of “fit” or actually misfit” of enterprise systems (ES) with their organizational use</p> | <p>Organizational and subunit level</p> | <p>1) Venkatraman’s Fit Taxonomy 2) Sia and Soh’s Misalignment Assessment Framework</p> | <p>Qualitative (Grounded theory and Critical realism)</p> | <p>Suggests that misfits were due to system deficiencies or system impositions, leading to the conclusion that Org–ES fit should be conceptualized as: 1) coverage (extent to which the ES meets the requirements of the organization); 2) enablement (extent to which the ES enables the organization to operate efficiently and effectively).</p> |
| <p>Spears and Barki, 2010</p> | <p>Alignment between IS security risk management (SMR) and the business environment.</p> | <p>Organizational Level (even end user questions pertain to the users overall in the organization)</p> | <p>IS development literature - IS user participation literature - buy-in theory of participation - system quality theory - emergent interactions theory</p> | <p>Multi-Method Design (Interviews followed by quantitative Survey data collection).</p> | <p>Suggests alignment is a mediator between user participation and organizational awareness. The findings show: 1) User Participation → Business SRM Alignment 2) Business SRM Alignment → Organizational Awareness</p> |
| <p>Tallon and Pinsonneault, 2011</p> | <p>Strategic IT alignment</p> | <p>Firm level</p> | <p>Strategic alignment literature, knowledge and resource-based view of the firm</p> | <p>Quantitative (Matched survey of IT and business executives in 241 firms)</p> | <p>Investigates whether alignment helps or hurts agility. By embedding alignment and agility in a nomological network in which agility mediates the link between alignment and firm performance, the results show that alignment enables rather than hinders agility. It also indicates that IT flexibility provides an added boost to agility in volatile settings, thus highlighting the options value of designing flexible IT in an uncertain market.</p> |
| <p>Banker, Hu, Pavlou and Luftman, 2011</p> | <p>Strategic IT alignment</p> | <p>Firm level</p> | <p>Chandler’s Strategy-structure theory and Porter’s typology of strategic positioning, configurations</p> | <p>Quantitative (Compustat survey on 200 firms for 1990-1993 period and 58 firms for the 2006 period)</p> | <p>Proposes different configurations demonstrates that the alignment between the firm’s CIO reporting structure and its strategic positioning helps positively affect firm performance across industries (measured with abnormal stock returns and future cash flow from operations).</p> |

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| Kane and Borgatti, 2011 | IS-proficiency alignment | Group level | Social Network Analysis concepts | Quantitative (Data from 468 employees in 32 workgroups) | Suggests that the alignment between IS proficiency and users' centrality in the group is likely to be positively related to performance at the group level and offers a way of testing it that is not limited to an inventory of group capabilities. |
| McLaren, Head, Yuan and Chan, 2011 | Strategic fit of a firm's IS (fit between a firm's realized competitive strategies and IS capabilities) | Firm level | Design science Configurational theory | Qualitative (Multi-case study based on five firms located in Canada) | Uses the design science research to explicate the requirements and theoretical principles for a new model for measuring the strategic fit of a firm's IS referred to as multilevel strategic fit measurement model that could be used in practice to improve the strategic fit of a firm's IS. |
| Guillemette and Paré, 2012 | Alignment of the IT function with IT-based capacities at the organizational level | Firm level | Typological theory, configurations | Qualitative (Systematic review + Field study in 24 large Canadian companies) | Develops and tests a new theory of the contribution of the IT function and offers a typology of five ideal profiles: <i>partner, systems provider, architecture builder, technological leader, project coordinator</i> . Such profiles are based on different dimensions: critical activities carried out by IT specialists, knowledge and abilities of IT professionals, nature of the relationship between the IT function and other business units or external partners, and finally, governance of the IT function. Suggests that the IT function that perfectly or closely matches a partner profile contributes greatly to improved organizational productivity |

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| <p>Xue, Ray and Sambamurthy, 2012</p> | <p>Strategic alignment</p> | <p>Firm level</p> | <p>Contingency perspective and organizational learning theory in particular exploitation and exploration processes</p> | <p>Quantitative (Multi-industry panel data)</p> | <p>Suggests that firm’s IT investment behaviors can enhance strategic alignment through their IT asset portfolios. It extends this idea by linking IT to two performance outcomes: efficiency and innovation and examines how environmental characteristics in terms of dynamism, munificence and complexity (as a moderator) influence this impact</p> |
| <p>Gerow, Grover, Thatcher and Roth, 2014</p> | <p>Business-IT strategic alignment and its three dimensions: intellectual, operational and cross domain alignment</p> | <p>Firm level</p> | <p>No overarching theory, uses the SAM of Henderson and Venkatraman (1999)</p> | <p>Review (meta-analysis)</p> | <p>Investigates the alignment-performance relationship and finds it positive across studies. First, intellectual alignment has a weaker relationship with customer benefit than operational alignment while cross-domain alignment takes the middle ground. Second, customer benefit has a stronger relationship with operational alignment than financial performance while productivity falls somewhere in between. Third, operational alignment has a somewhat weaker relationship with financial performance compared to intellectual and cross-domain alignment</p> |
| <p>Wu, Straub and Liang, 2015</p> | <p>Strategic alignment with a focus on the intellectual dimension</p> | <p>Firm level</p> | <p>Resource-based view of the firm</p> | <p>Quantitative (uses dyadic survey data collected from 131 Taiwanese companies, cross validated with archival data from 72 firms.</p> | <p>Investigates how the intellectual dimension of strategic alignment can mediate the effectiveness of IT governance on organizational performance. Finds that 1) IT governance in the form of decision-making structure, formal processes, and communication approaches is an important antecedent of strategic alignment, and (2) that this intellectual dimension fully mediates the impact of IT governance mechanisms on organizational performance.</p> |

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| Rai, Arikan, Oye and Tiwana, 2015 | (mis)alignment between a firm's development of IT-enabled process integration capabilities and its decision to increase/decrease MSI (Market sourcing intensity). | Firm level | Transaction-cost economics, coordination costs, and IT capabilities and | Quantitative (Panel dataset from 342 utility firms in the US) | Suggests that fit between the development of interfirm process integration capability and increases in MSI accrues performance benefits and misfit between the development of intrafirm process integration capability and increases in MSI extracts performance penalties. |
| Sabherwal and Jeyaraj, 2015 | IT alignment is considered a subcomponent of IT potential which moderates the link between the consider of IT investment and the derived business value of IT (BVIT) | Firm level | IT strategic alignment literature | Meta-analysis: 303 studies (published between 1990 and 2013) on firm-level BVIT, which yielded 336 observations. | Considerations of IT alignment strengthen the relationship between IT investment on BVIT. |
| Leonardi, Bailey, Diniz, Sholler and Nardi, 2016 | Different actors' appropriations in a dynamic ecosystem including system interactions with policies, organizations, and institutions | Multiple actors, user groups in different setting | Complex systems Adaptive structuration theory | Qualitative (case study with primary interviews and secondary data in two settings: retail stores and post offices) | Develops a multiplex perspective on appropriation of multiple elements by multiple actors in multiple settings at the same time. Across the system, multiple actors in multiple settings will appropriate multiple elements in different ways such that the system is dynamic. This perspective allows for local alignments of system elements that fit the local context. Social and financial rewards and incentives encouraged actors to appropriate system elements. |
| Mithas and Rust, 2016 | IT strategy is viewed as an expression of the firm's dominant strategic objective: 1) revenue expansion, 2) cost | Firm Level | IT strategic ambidexterity | Secondary data was collected from 300 U.S. firms. Independent and dependent variables were obtained from | Firms with a dual IT strategic emphasis have a higher market value than firms with a revenue or a cost emphasis, but they have similar levels of profitability. IT strategic emphasis plays a significant role in moderating the relationship |

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| | reduction, or 3) a dual emphasis pursuing both goals. | | | Separate secondary sources (InformationWeek CIO survey and Compustat). Analyses were conducted via Tobins-Q. | between IT investments and firm performance with dual-emphasis firms have a stronger relationship than revenue-emphasis firms. Dual-emphasis firms also have a stronger IT–profitability relationship than either revenue- or cost-emphasis firms. The study concludes that at low levels of IT investment, the firm may need to choose between revenue expansion and cost reduction, but at higher levels of IT investment, the firm should seek a dual-emphasis in IT strategy or IT strategic ambidexterity. |
| Gregory, Kaganer, Henfridsson and Ruch, 2018 | Alignment of IT related activities with the organization’s strategy and objectives | Firm Level | Punctuated equilibrium theory | Grounded theory method | This study examines how IT governance (i.e., decision rights and accountability framework) ensure the alignment of IT related activities with the organization’s strategy and objectives. The findings indicate that as the IT belief system in the firm begins to alter the IT-related activities of workers, the result is IT governance misalignments that ultimately lead to a punctuated transformation of IT governance that dismantles functional IT governance. The establishment of platform-based governance marks a new equilibrium period. |
| Sabherwal, Sabherwal, Havakhor and Steelman, 2019 | Strategic alignment with a focus on the intellectual dimension | Firm level | Resource-based view | Panel-data analyses of data from 1999 – 2008, including 758 firm-year observations from 242 firms. | The findings show that IT strategic alignment as a state directly improves firm performance even when considering IT investment and its interaction with such alignment. In addition, the effect of the interaction between IT strategic alignment and IT investment on firm performance increases with an increase in environmental dynamism or complexity |

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| | | | | | and with a decrease in environmental munificence. Furthermore, IT alignment enhances the positive effect of IT investment on firm performance in dynamic or complex environments, but this effect is reduced in stable or simple environments. |
| Chau, Ngai, Gerow and Thatcher, 2020 | Strategic alignment with a focus on the intellectual dimension | Firm Level | IT strategic alignment literature | Employed a survey to develop a moderated polynomial model that predicts alignment and misalignment's effect on firm performance using data from 87 firms. | The findings provide empirical support that effective IT governance within proactive organizations positively moderated the curvilinear relationship between alignment, misalignment, and firm performance. |

Table 3. Cross-References with MIS Quarterly Curations

| MIS Quarterly Curation | Cross References |
|---------------------------------|---|
| Health Information Technology | Davidson, E. and Chismar, W. "The Interaction of Institutionally Triggered and Technology-Triggered Social Structure Change: An Investigation of Computerized Physician Order Entry," MIS Quarterly (31:4), December 2007, pp. 739-758. |
| Information Systems Development | Slaughter, S., Levine, L., Ramesh, B., Pries-Heje, J. and Baskerville, R. "Aligning software processes with strategy," MIS Quarterly (30:4), December 2006, pp. 891-918. |
| IS Control & Governance | <p>Gregory, R.W., Kaganer, E., Henfridsson, O. and Ruch, T.J. "IT Consumerization and the Transformation of IT Governance," MIS Quarterly (42:4), Dec 2018, pp. 1225-1253.</p> <p>Wu. S., Straub, D. and Liang T. P. "How Information Technology Governance Mechanisms and Strategic Alignment Influence Organizational Performance: Insights from a Matched Survey of Business and IT Managers," MIS Quarterly (39:2), June 2015, pp. 497-518.</p> |
| IS Sourcing | Mani, D. Barua, A. and Whinston, A. "An Empirical Analysis of the Impact of Information Capabilities Design on Business Process Outsourcing Performance," MIS Quarterly (34:1), March 2010, pp. 39-62. |
| IS Use | <p>Davidson, E. and Chismar, W. "The Interaction of Institutionally Triggered and Technology-Triggered Social Structure Change: An Investigation of Computerized Physician Order Entry," MIS Quarterly (31:4), December 2007, pp. 739-758.</p> <p>Leonardi, P., Bailey, D., Diniz, E., Sholler, D. and Nardi, B. "Multiplex Appropriation in Complex Systems Implementation: The Case of Brazil's Correspondent Banking System," MIS Quarterly (40:2), June 2016, pp. 461-473.</p> <p>Majchrzak, A., Rice, D. Malhotra, A., King, N. and Ba, S. "Technology Adaption: The Case of a Computer-Supported Inter-organizational Virtual Team," MIS Quarterly (40:2), December 2000, pp. 569-600.</p> <p>Strong, D. and Volkoff, O. "Understanding Organization–Enterprise System Fit: A Path to Theorizing the Information Technology Artifact," MIS Quarterly (34:4), December 2010, pp.731-756.</p> |