



MIS Quarterly Research Curation on Information Systems Alignment

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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 and 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.

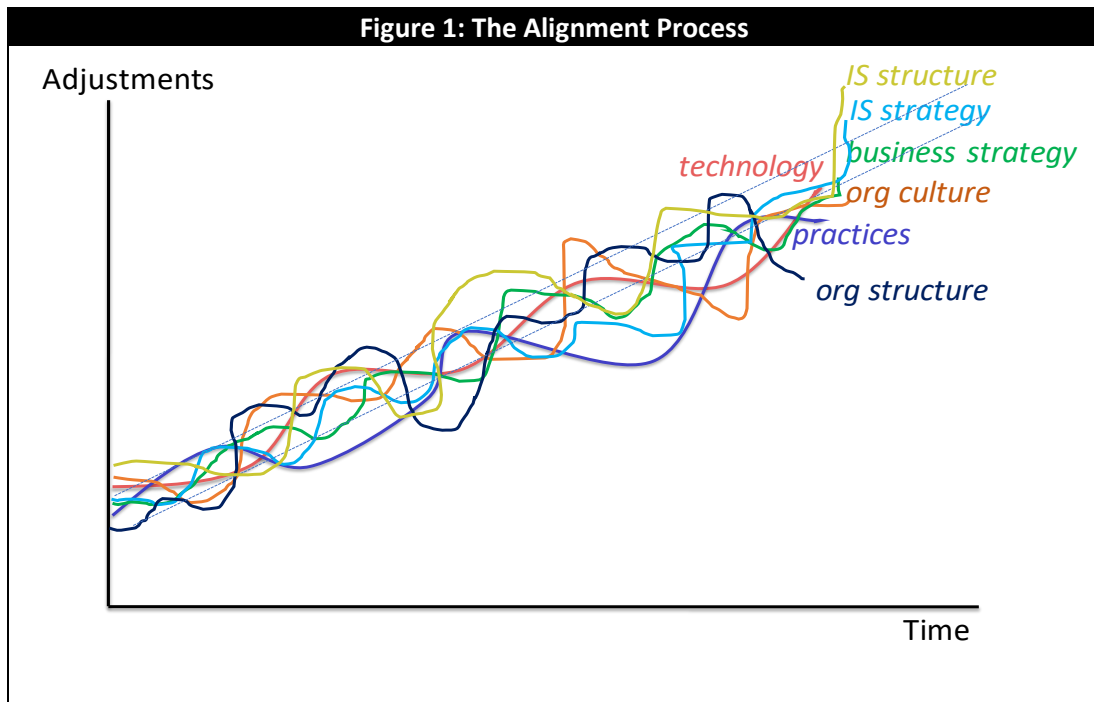
Given the established plurality of meanings embedded in the term ‘alignment’ and multiple ways in which researchers have employed this term to date, in this curation we apply a general selection requirement for our initial pool of research studies. In order to maximize the inclusion of all potentially 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 46 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 29 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 November 2018, inclusive.

For the coding process, each researcher proceeded with a detailed examination and coding of approximately 10 of the 29 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,

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

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 29 articles reviewed, we observed the following: a) the vast majority of the papers (22) examined alignment at the organizational level; b) four papers examined alignment at the business unit level (e.g., Reich and Benbasat 2000); c) two papers examined alignment at the group level (e.g., Kane and 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 (13), qualitative case studies (12), multi-method mixed-studies (2), conceptual studies (2) and a meta-analysis (1).



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 November 2018.

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 and Herbert 1986). The importance of IS alignment to practitioners would remain a perennial issue in later industry studies (e.g., Niederman, Brancheau and 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 and 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 and Magill 1994) and culture (Reich and 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 and Pinsonneault 2007), and through case studies (Davidson and 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 and 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 and 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 and Sambamurthy, 2012), and the firm's ability to adapt and respond to environmental change (e.g., IT flexibility, agility) (Tallon and 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 and Luftman, 2011; Guillemette and Paré 2012; McMaren, Yuan and Chan 2011; Leonardi et al. 2016).

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 and 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 and Herbert, 1986), the dimensions of planning success (Segars and 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 and 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 and 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 and 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 and 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 and 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 and Barki, 2010) and outsourcing performance (Mani, Barua and 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.

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.

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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
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 Arikian; Jessica Pye; 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	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

Table 2. Coding Results for MISQ IS Alignment papers

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.

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.

Brown and Magill, 1994	IS structural alignment with the organization	Firm level	Contingency theory and gestalt theory.	Qualitative (Case study research in six large Fortune 500)	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.
Reich and Benbasat, 1996	The social dimension of linkage	Business Unit	Draws on Horovitz's (1984) distinction between the intellectual and social dimensions of the process of strategic business planning	Qualitative (10 business units within 3 large Canadian life insurance companies. 57 interviews with 45 informants).	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.
Francalanci and Galal, 1998	Alignment of IT investment with worker composition	Firm level	Organizational imperative view, information processing and agency theory	Quantitative (multiple datasets including compustat, a company database and data on publicly traded companies).	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.

Segars and Grover, 1998	Planning alignment as a first order construct of SISP effectiveness	Firm level	IS strategic management literature	Quantitative (survey of 550 individuals listed in the East Edition of the Directory of Top Computer Executives)	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.
Reich & Benbasat 2000	Social Dimension of Alignment Short-term alignment Long-term alignment	Business Unit	Extracted constructs from prior research.	Qualitative (10 business units studied using interviews over 12 months).	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.
Majchrzak, Rice, Malhotra, King, and Ba, 2000	Alignment between organizational environment, group structure, and new technology spirit and features	Group level	Structuration Theory	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).	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

Slaughter, Levine, Balasubramani Jan Pries-Heje, and Baskerville, 2006	Alignment in a firms' strategies and production processes in software development.	Business Unit	No overarching theory applied.	Qualitative (case studies were conducted in 9 firms various industries).	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.
Soh, Markus, and Huat Goh 2006	Alignment among strategy, price transparency, and performance of Electronic Marketplaces (EMPs)	Organizational level (EMP)	Porter's theory of competitive advantage; and the resource-based view.	Quantitative (19 EMPs in the electronic components industry)	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.
Oh and Pinsonneault 2007	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	Organizational Level	1) The Resource-Centered Perspective of the Strategic Value of IT 2) The Contingency Perspective of the Strategic Value of IT	Quantitative (Matched survey data collected from the CEOs and CIOs of 110 Canadian small and medium-size firms in the manufacturing industry).	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.

Davidson and Chismar 2007	Alignment is conceptualized in terms of aligning an organization's social structures with its technology capabilities	Organizational Level (single firm study)	Barley's (1990) model for the alignment of technology and social structure	Qualitative (Interpretive field study of a single hospital's experiences with a Computerized Physician Order Entry CPOE system)	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 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.

Strong and Volkoff 2010	Alignment in terms of “fit” or actually misfit” of enterprise systems (ES) with their organizational use	Organizational and subunit level	1) Venkatraman’s Fit Taxonomy 2) Sia and Soh’s Misalignment Assessment Framework	Qualitative (Grounded theory and Critical realism)	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).
Spears and Barki 2010	Alignment between IS security risk management (SMR) and the business environment.	Organizational Level (even end user questions pertain to the users overall in the organization)	IS development literature - IS user participation literature - buy-in theory of participation - system quality theory - emergent interactions theory	Multi-Method Design (Interviews followed by quantitative Survey data collection).	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
Tallon and Pinsonneault 2011	Strategic IT alignment	Firm level	Strategic alignment literature, knowledge and resource-based view of the firm	Quantitative (Matched survey of IT and business executives in 241 firms)	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.

Banker, Hu, Pavlou and Luftman 2011	Strategic IT alignment	Firm level	Chandler's Strategy-structure theory and Porter's typology of strategic positioning, configurations	Quantitative (Compustat survey on 200 firms for 1990-1993 period and 58 firms for the 2006 period)	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).
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
Xue, Ray, and Sambamurthy 2012	Strategic alignment	Firm level	Contingency perspective and organizational learning theory in particular exploitation and exploration processes	Quantitative (Multi-industry panel data)	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
Gerow, Grover, Thatcher and Roth 2014	Business-IT strategic alignment and its three dimensions: intellectual, operational and cross domain alignment	Firm level	No overarching theory, uses the SAM of Henderson and Venkatraman (1999)	Review (meta-analysis)	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
Wu, Straub and Liang, 2015	Strategic alignment with a focus on the intellectual dimension	Firm level	Resource-based view of the firm	Quantitative (uses dyadic survey data collected from 131 Taiwanese companies, cross validated with archival data from 72 firms.	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.
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.
Leonardi, Bailey, Diniz, Sholler, 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.

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