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Research in Progress

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Abstract

Alignment between business and IT functions is a critical yet unsolved problem of many organizations. Despite considerable amount of research devoted to address this issue, the quest for alignment remains challenging, particularly in light of the rapid and widespread digitization of the business world. This paper argues that a research-practice gap exists in the alignment field, and that academic literature fails to discuss key aspects of high practical relevance: alignment as an (emergent) process rather than a state, and operational realities rather than strategic goals. To reduce this gap, we draw on extant alignment research and psychological approach-avoidance theory to develop a model of misaligned organizations, emphasizing the need for coordination between strategy and operations and investigating the adverse effects of operational misalignment. Results from two case companies facing operational misalignment provide preliminary confirmation for our propositions and support the call for more practice-oriented research in this highly complex domain.

Keywords: business-IT alignment, operational misalignment, Approach-Avoidance Theory

1   Introduction

Alignment between business and information systems (IS) strategy - strategic alignment - has long been one of the core issues in the information systems discipline (Henderson & Venkatraman 1993; Chan & Reich 2007). Tanriverdi et al. (2010) refer to strategic alignment as one of the three main quests in IS research, alongside the quests for integration and sustained competitive advantage. The perspectives on business-IT alignment have changed over time, from the traditional meaning of "linking the business plan and the IT plan" to the more recent idea of "ensuring congruence between the business strategy and the IT strategy" (Chan & Reich 2007). Researchers emphasize the challenges of organizations to compete in the digital era, facing the pressure of multiple, often conflicting forces on their IS strategy and governance (Sambamurthy & Zmud 1999; Sambamurthy & Zmud 2000). In spite of the fact that research in business-IT alignment has built up a solid body of knowledge throughout the last decades, organizations continue to face problems of misalignment in practice (Coltman et al. 2015). We argue that this research-practice gap is based on the following shortcomings of extant alignment research.

Much alignment research focuses on the activity of planning, taking a rational and static perspective to alignment. This includes the conceptualization of alignment as an end state rather than a continuous process, or journey (Horner Reich & Benbasat 2000; D. S. Preston & Karahanna 2009). Often, the underlying goal has been the definition of IS goals that fit and support the business goals. Much emphasis has been put on the planning aspects of alignment, assuming that a well-defined plan will lead to alignment when put into practice (van der Zee & de Jong 1999). In reality however it has been shown that successful alignment in practice is too dynamic and complex then to be plannable, and thus more often results from "serendipity and improvisation than from prepensive formal planning" (Benbya & McKelvey 2006, p.285; Ciborra 1992). Researchers have only recently taken upon the challenge to conceptualize alignment as an emergent, yet complex and dynamic process (Chan & Reich 2007; Sabherwal et al. 2001; Kappelman et al. 2014; Chan 2002; Baker et al. 2011). As shown in other social contexts, processes are arguably more difficult to investigate and capture than static pictures, the opportunities of finding valuable insights of high practical relevance are vast (Gioia & Patvardhan 2012). From this perspective alignment can be conceptualized as a process shaped by different forces, including top-down plans as well as bottom-up emergent processes, and is therefore in need of reconciliation between these likely conflicting interests (Fonstad & Robertson 2006; Benbya & McKelvey 2006).

Researchers have only recently pointed out that alignment research is somewhat mature on the strategic level, yet actual realizations of strategy on operational levels are understudied (Schlosser et al. 2011). Tallon (2008) remarks that alignment research has long been wrestling with its focus on strategy and the resulting problem of how to observe and measure both strategy and alignment in practice. Similarly, Benbya and McKelvey (2006) notice that much research has investigated simplified cause-effect determinisms, ignoring both the complexity of real life scenarios with multiple influence factors as well as the need for sustained alignment in mid- and long-term scenarios. Only little research has investigated alignment from the level of actual fit between operational IT and business needs (Sabherwal & Chan 2001; Chan 1997). Especially the linkage of alignment between individual, operational and strategy levels – investigating the micro-foundations of business-IT alignment - has been proposed as one promising area for future alignment research (Coltman et al. 2015). For the alignment domain, understanding the connection between business and IT on these levels is at the core of the discipline. Yet, most research has focused on single level analysis (most notably the strategic level), neglecting the implications that strategy has on operations and thus limiting the discussion of planned versus emergent strategy realization (Mintzberg 1985).

In this article we want to address these shortcomings by investigating two cases of failed operational alignment and their implications. To do so, we borrow from the rich and mature background of psychological theories on stress and coping to analyze the effects of operational misalignment. This is in

line with the recent call for "new theoretical underpinnings" in alignment research (Chan & Reich 2007, p.311).

The remainder of this article is structured as follows. We first introduce the conceptual background of alignment research and elaborate on the shortcomings of the field to develop our theoretical propositions. Then we present the empirical research design, followed by a presentation of the preliminary findings from our case studies. We discuss our results and point to the contributions of this paper before concluding with limitations and pointers for future research.

2   Conceptual background and research model

Prior research has identified three major (interdependent) dimensions of alignment between business and IT: intellectual and strategic alignment, social and cultural alignment, and structural (both formal and informal) alignment (Chan & Reich 2007; Schlosser et al. 2011).

On a strategic level, intellectual alignment is defined as "the state in which a high-quality set of inter-related IT and business plans exist" (Reich & Benbasat 2000). This is further separated into two perspectives: the alignment of the IS plan to the business plan – making sure that the IS plan follows the overall business strategy, and the alignment of the business plan with the IS plan – ensuring that the business plan reflects the assets and capabilities that the IS function can offer (Kearns & Lederer 2003).

Social alignment refers to the notion of a shared culture and understanding of the organizations strategy and goals among both business and IS divisions (Schlosser et al. 2011; Karahanna & Preston 2013; D. Preston & Karahanna 2009). Evidence suggests an inherent connection between the intellectual and social dimension, which adds to the complexity of achieving alignment (Horner Reich & Benbasat 2000).

Structural alignment refers to the "degree of structural fit between IT and the business" (Chan & Reich 2007, p.300), which translates into the definition of decision-making processes and rights, rules for cooperation and reporting and the general work processes between business and IS departments. This does not only include formal, but also informal structures that have been established in an organization (Chan 2001).

2.1   Dimensions of operational alignment

Investigating the role of social capital, Wagner et al. (2014) define operational alignment as "cross-domain interconnectedness comprising social capital between IT and business departments and their common knowledge base" (Wagner et al. 2014, p.243).

For the remainder of this article we differentiate between the intellectual alignment dimension on the strategic level - concerned with goal alignment and planning – on the one hand, and both structural and sociocultural alignment as dimensions of operational alignment – concerned with actual work processes and employee social relationships in practice (Horner Reich & Benbasat 2000; Schlosser et al. 2011). This is in line with Benbya and McKelvey (2006, p.295), who conceptualize operational alignment as including both formal/structural as well as informal/social components. Thus, we propose:

Proposition 1: operational alignment comprises both structural and sociocultural alignment.

Previous research points to the interdependence of structural work aspects (e.g. formalized processes, decision rights, control and reporting procedures) with sociocultural factors. In their analysis of ERP project success factors, Akkermans and van Helden (2002) find that e.g. project champions or top management support (structural) are supportive for the definition of clear goals and further the management of expectations (sociocultural). Pointing to a tight relationship between the structural and the

sociocultural aspects, Wagner et al. (2014, p.244) argue that in "corporate reality, many key mechanisms and outcomes are informal and intangible". Only recently, Karahanna and Preston (2013) demonstrated the influence of structural social capital on cognitive social capital, pointing to the relatively strong effect of social rather than structural aspects on strategic alignment. Concluding, we propose:

Proposition 2: structural and sociocultural (mis-)alignment dimensions are interdependent and reinforce each other.

2.2   Avoidance strategies in operational misalignment

To understand the mechanics and effects of human-technology interaction on the level of individuals, groups and organizations, IS research often draws on psychological or sociological theories (Benbya & McKelvey 2006, p.291). We conceptualize operational misalignment as a stress factor to an organization and its members and build on approach-avoidance theory (AAT) to understand the strategies employed to cope with this stress.

As a well-known psychological theory, AAT states that humans employ two basic modes of dealing with stress and or trauma that challenges their goals: approach and avoidance (Roth & Cohen 1986; Lewin 1935). The approach-avoidance distinction is established in various disciplines, such as motivation (Elliot 2006), personality (Elliot & Thrash 2010) and decision theory (Tversky & Kahneman 1981; Tversky & Kahneman 1992). In relation to psychological stress, those inherently antithetic modes are referring to all actions, emotionally and physically, that are chosen by individuals to relief themselves in situations of mental stress. The approach mode can be described as active engagement with the problematic situation at hand, including a deep investigation of its root causes leading to disentanglement and mental relief. The avoidance mode can best be described with the "running away from a problem" metaphor. Actions related to the avoidance mode often include treating local symptoms of a problem, leading to short-term improvement (relief) while ignoring or even worsening the overall problem from a long-term perspective.

While the "approach-avoidance distinction […] has long been overlooked by IS researchers" (Liang & Xue 2009, p.86), AAT has been translated to and successfully applied in various academic disciplines. Indeed, only few IS researchers employ some kind of approach-avoidance theory in their studies, mostly focusing on the avoidance dimension and failing to discuss the distinctive differences between the two modes.

A number of researchers have used avoidance behavior to explain IS project failures. Wastell (1999) investigates IS project failures by employing a defense-avoidance perspective. He argues that team members experience such high levels of stress in IS projects that they resort to social defenses to reduce anxiety, instead of "reflective genuine engagement" (Wastell 1999, p.581). Other researchers use AAT, among other perspectives, to explain the escalation behavior of project managers when dealing with "runaway systems" - projects with substantial resource overruns (Keil et al. 2000; Zhang et al. 2003).

In the field of technology acceptance, Pinsonneault and Beaudry (2005) propose the coping model of user adaptation (CMUA) as a framework to integrate findings from both process and variance perspectives to technology acceptance by considering user adaptation as a coping process. Meissonier and Houzé (2010) build on a 2-year action research project focusing on ERP implementation to propose IT Conflict-Resistance Theory (IT-CRT). IT-CRT uses a threefold typology of organizational conflict (integrative, distributive and avoidance) to explain the impact of different management styles on the management of resistance in system implementation projects.

We build on AAT to conceptualize operational misalignment, both structural and sociocultural, as hindrance to the goal achievement of employees, thus representing stress. According to AAT, and in

line with CMUA (Pinsonneault & Beaudry 2005), employees will evaluate potential reactions according to the level of control they perceive. Low perceived control, as the impossibility to change strategic plans from bottom-up, will eventually lead to avoidance of the stressor. Thus, we propose:

> *Proposition 3a: operational misalignment can lead to avoidance strategies of employees.*

Extant literature has pointed to the path dependency of organizational decision-making when studying IS projects (Wei et al. 2005; Markus & Tanis 2000). In the context of ERP system implementation, "misalignment and resolution actions of one point in time might be originated from the misalignment and resolution strategies in previous stages" (Wei et al. 2005, p.330). This is in line with AAT, stating that avoidance strategies reinforce themselves iteratively, leading to continuous avoidance of the stressor and increased difficulties to change from avoidance to approach strategies (Carver & Connor-Smith 2010). We propose therefore:

> *Proposition 3b: avoidance strategies reinforce misalignment in structural and sociocultural dimensions.*

Avoidance strategies focus on eliminating short-term, localized symptoms instead of addressing the root of the problem (Roth & Cohen 1986). Such behavior is therefore indifferent or worsening to the root cause of the problem and it "is generally ineffective in reducing distress over the long term, as it does nothing about the threat's existence and its eventual impact" (Carver & Connor-Smith 2010, p.686). In business-IT alignment, the root cause of operational misalignment is the failed or erroneous translation of strategic goals into operational contexts (Shpilberg et al. 2007). Continues avoidance of operational misalignment issues will thus also likely have a negative effect on the strategic goals of the organization, as its operational processes and sociocultural environment are not set up properly.

> *Proposition 3c: avoidance strategies hinder the achievement of strategic alignment goals.*

3 Methodology

Our empirical work builds upon a multiple case study methodology grounded on qualitative data (Eisenhardt 1989). Case studies are useful to explain and understand the structural as well as the dynamic aspects of a social setting (Yin 2009). Using a multiple case study approach, we are able to perform cross-case analysis to generate or extend existing theory (Benbasat et al. 1987).

Data source	Description
Minutes of meetings	Meeting notes taken during discussions regarding contributions and decisions, as well as planned future actions and responsibilities.
Published material	Material published for external audiences or publicly available data about the firm, including brochures, newspaper and trade journal articles, annual reports, and annual statements.
Archival data	Internal documents, policies, presentations and records such as project and organization plans and charts, process documentation, and human resource records.
Open-ended semi-structured interviews	A total of 21 interviews have been conducted across the two case companies. Interviews were split in initial, exploratory interviews and follow-up, in-depth interviews (Kvale 2007).

Table 1.   Overview of data collection methods.

3.1 Research sites

Our case companies operate in the clean energy market on a worldwide scale. While both companies have subsidiaries in many countries, our data collection took place in their headquarters, which are located in the same European country. Falling prices for (clean) energy and policy changes to reduce clean energy subsidies have recently put strong financial pressure on the industry.

Company A has close to 20tsd employees world-wide and an annual turnover of around 7 billion USD. After a period of serious financial problems and multiple consecutive years of losses Company A has successfully managed to turnaround and become profitable again in the last year. The financial pressure and increased awareness on expenses has contributed to some of the problems described in this analysis. Corporate IT is responsible for delivering and maintaining all information technology within the centralized organization. They facilitate and partially execute projects related to IT applications, infrastructure and services. Moreover, they are in charge of negotiations with IT vendors and suppliers on project or continuous basis. Facing heavy cutbacks due to the financial crisis, the IT department now has around 250 employees and entered strategic partnerships with local outsourcing providers.

Company B is part of a global industrial group (IG) with more than 300tsd employees and a turnover of more than 75 billion USD. Thus, it is approximately ten times the size of Company A. Company B has recently faced a drastic decline in revenue and for the first time reported negative earnings last year. While a central IT department serves most of IGs companies, Company B historically has their own IT department (B-IT). The overall IT organization of IG has around 7tsd employees; B-IT is a relative small organization with 60 employees. B-IT follows the corporate demand management process set up by the central IT governance function.

3.2 Data Analysis and coding

The unit of analysis of our propositions are the alignment processes, carried out on individual and group level. We aimed to investigate both formal and informal processes, observed either as documented processes (e.g. demand processes following specific guidelines or process-charts) or by aggregation of streams of individual acts and behavior into patterns.

To do so, we employed an abductive data analysis approach to be able to both learn from the underlying data in case new patterns reveal themselves as well as to test the applicability of the theoretical propositions to our cases. Abductive research follows a pragmatic approach to constructing categories, where the data analysis process contains continuously checking if established coding schemes are still useful or need to be discarded (or updated). To analyze our case data we went through a two-step process of open- and axial coding as described by (Eriksson & Kovalainen 2008). The initial, open coding processes was performed "close to the data" and led to insights about common structures and domains within and across our case data (Charmaz 2006). As an intermediate step of our analysis, the resulting coding categories were then compared with theoretically derived alignment constructs from theory. As a last step we performed axial coding, using our new analytical model to re-iterate through the data and strengthen the model by "building a dense texture of relationships around the axis of a category" (Strauss 1987, p.64).

4 Preliminary findings

The data we collected provide evidence for our propositions, supporting the proposed link between the different dimensions of operational alignment, as well as adding to our understanding of how users react in situations of (continuous) operational misalignment. An overview of preliminary findings is presented in Table 2.

Nr	Proposition	Company A	Company B
1	Operational alignment comprises both structural and sociocultural alignment.	Unclear decision processes. IT being perceived as in transparent and unprofessional. Estimates from IT are deemed untrustworthy. "IT is free" mentality leads to unfocused demands.	IT uses different estimation techniques than business departments. IT department is perceived as incompetent, delivering over time and budget and with low quality.
2	Structural and sociocultural misalignment dimensions are interdependent and reinforce each other.	IT decision processes are in transparent, leading to lack of trust. Unclear process of estimating demands, leading to doubts about correctness.	Difference in time measurement, lack of quality etc. leads to lack in plannability, frustration, reduced trust. Lack in trust leads to avoidance of formally defined demand processes.
3a	Operational misalignment can lead to avoidance strategies of employees.		Widespread use of external suppliers to avoid internal IT. Establishment of black market to avoid internal IT. Creation of informal user-groups to support externally sourced technologies.
3b	Avoidance strategies re-inforce misalignment in structural and sociocultural dimensions.		Lack of overall IT architecture. Prolonged future demand processes. Increasing lack of trust and willingness to cooperate.
3c	Avoidance strategies hinder the achievement of strategic alignment goals.		Dependence on external suppliers. Deteriorating business-IT agility.

Table 2.   Overview of propositions and preliminary findings

4.1   Dimensions of operational alignment

Our interviewees from the business departments of Company A describe their perception of corporate IT as in transparent and "unprofessional" (Senior Manager), based on their experiences with failed or escalated projects and rejected demands. Their frustration and lack of trust is based on repeated negative experiences with corporate IT, even though formal policies (when available) are adhered to. On one occasion, a senior financial officer of Company A described that the estimates shown from IT are often looking "too good to be true", therefore deemed untrustworthy and rejected. In contrast, employees from within the IT department complain openly about the "IT is free mentality" (IT Project Manager) on the business side, leading to unfocused demands. The resulting situation is a high number of IT projects that delivered successfully, but are never actually put to use in practice. This shows that a lack of structural operational alignment, explicated by intransparent decision processes and agility mismatches, leads to numerous sociocultural problems, demonstrated by frustration, lack of trust and perceived unprofessional behavior among employees.

The IT department of Company B has developed a reputation among the business side for delivering projects over time and budget, as explicated by multiple interviewees. In addition, quality expectations are often not met. A particularly negative influence of failed structural setup to the sociocultural environment is related to measures of project timeliness. When setting up a new project, the IT and business department agree in a mutual process on an expected completion date for the project, as well as on the latest possible completion date, which includes all potential time-buffers. Within IT, the calculation of project timeliness is done with respect to the latter date, including all potential time buffers. This one-sided measurement goal leads to high levels of frustration, lack of understanding and eventually distrust on the business side.

4.2 Avoidance strategies in operational misalignment

A number of different strategies of dealing with operational misalignment can be observed in company B. Business managers expressed their experience that external providers would fulfill their IT demands in many cases faster, cheaper and overall provide higher quality than corporate IT. In complete contrast to the strategy to source internal whenever possible, an informal rule was established to "keep [internal] IT out of the picture as long as possible" in order to have a successful project, as one business analyst put it. This informal strategy climaxed in the ongoing practice of exchanging unspent amounts of already approved funding for external vendors among business departments. That is, if department C has an IT demand but wants to avoid going through the internal process, they would ask department D to "loan" them already approved budgets for external spending. Analysts report that while some business departments share the same requirements (e.g. for a new software), different external suppliers are hired and no overall consolidation is pursued. Over time, these practices lead to the situation that the IT landscape grows more and more complex and chaotic. Thus, while solving their local problems, these avoidance strategies actually add to operational misalignment. Moreover, the decision to continuously source a great amount of technical knowledge, skills and technology itself through external channels introduces a dependency to external vendors. Operationally, the IT department decided to withdraw support for technology (e.g. software products) that was bought directly from external suppliers, without consulting IT through the designated demand process. What followed was another act of creative coping, as business employees realized their need for self-learning and extended knowledge sharing across different business departments, and created self-governed user-support groups.

5 Conclusion, limitations and further research

As recent research points out, business-IT alignment is a journey that unfolds in rather unpredictable ways (Chan & Reich 2007). Using AAT, we draw on a widely established psychological theory to explain the avoidance behaviour of employees when confronted with operational misalignment. Our results underline the importance of operations in business-IT alignment, and help to uncover the adverse effects that operational misalignment can have on an organization. In doing so, we aim to reduce the research-practice gap within the domain (Coltman et al. 2015).

This study has several limitations. We draw on qualitative case studies from two companies, which allows analytical generalizability (providing description from thick data) but prohibits statistical inference (Lee & Baskerville 2003). Moreover, to understand better the detailed mechanics of the alignment journey, future process-based studies are required (Van de ven & Poole 1994). Researchers are encouraged to build on the approach-avoidance distinction to investigate individual or group behaviour in relation to business-IT alignment, as it shows to be a promising theory to bridge the gap between multiple levels of analysis.

References

Akkermans, H. & van Helden, K., 2002. Vicious and virtuous cycles in ERP implementation: a case study of interrelations between critical success factors. *European Journal of Information Systems*, 11(1), pp.35–46.

Baker, J. et al., 2011. Conceptualizing the dynamic strategic alignment competency. *Journal of the Association for Information Systems*, 12(4), pp.299–322.

Benbasat, I., Goldstein, D.K. & Mead, M., 1987. The Case Research Strategy in Studies of Information Systems. *MIS Quarterly*, 11, pp.369–386.

Benbya, H. & McKelvey, B., 2006. Using coevolutionary and complexity theories to improve IS alignment: A multi-level approach. *Journal of Information Technology*, 21(4), pp.284–298.

Carver, C.S. & Connor-Smith, J., 2010. Personality and Coping. *Annual Review of Psychology*, 61(1), pp.679–704.

Chan, Y.E., 1997. Business Strategic Orientation, Information Systems Strategic Orientation, and Strategic Alignment. *Information Systems Research*, 8(2), p.26.

Chan, Y.E., 2001. Information Systems Strategy, Structure and Alignment. In R. Papp, ed. *Strategic Information Technology: Opportunities for Competitive Advantage*.

Chan, Y.E., 2002. Why Haven't We Mastered Alignment? The Importance Of The Informal Organization Structure. *MIS Quarterly Executive*, 1(2), pp.97–112.

Chan, Y.E. & Reich, B.H., 2007. IT alignment: What have we learned? *Journal of Information Technology*, 22(4), pp.297–315.

Charmaz, K., 2006. *Constructing grounded theory: a practical guide through qualitative analysis*,

Ciborra, C.U., 1992. From thinking to tinkering: The grassroots of strategic information systems. *The Information Society*, 8(December), pp.297–309.

Coltman, T. et al., 2015. Strategic IT Alignment: Twenty-five Years on. *Journal of Information Technology*, 2015(30), pp.91–100.

Eisenhardt, K.M., 1989. Building Theories from Case Study Research. *Academy of Management Review*, 14(4), pp.532–550.

Elliot, A.J., 2006. The hierarchical model of approach-avoidance motivation. *Motivation and Emotion*, 30(2), pp.111–116.

Elliot, A.J. & Thrash, T.M., 2010. Approach and Avoidance Temperament as Basic Dimensions of Personality. *Journal of Personality*, 78(3), pp.865–906.

Eriksson, P. & Kovalainen, A., 2008. Qualitative Methods in Business Research. *Narrative*, pp.227–243.

Fonstad, N.O. & Robertson, D., 2006. Transforming a company, project by project: the IT engagement model. *MIS Quarterly Executive*, 5(1), pp.1–14.

Gioia, D.A. & Patvardhan, S., 2012. Identity as process and flow. In *Constructing Identity in and around Organizations2*. pp. 50–62.

Henderson, J.C. & Venkatraman, H., 1993. Strategic alignment: Leveraging information technology for transforming organizations. *IBM Systems Journal*, 32(1), pp.472–484.

Horner Reich, B. & Benbasat, I., 2000. Factors That Influence the Social Dimension of Alignment between Business and Information Technology Objectives. *MIS Quarterly*, 24(1), pp.81–113.

Kappelman, L., Mclean, E. & Gerhart, N., 2014. The 2014 SIM IT Key Issues and Trends Study. , 2014(December), pp.237–263.

Karahanna, E. & Preston, D.S., 2013. The Effect of Social Capital of the Relationship Between the CIO and Top Management Team on Firm Performance. *Journal of Management Information Systems*, 30(1), pp.15–56.

Kearns, G.S. & Lederer, A.L., 2003. A resource-based view of strategic IT alignment: How knowledge sharing creates competitive advantage. *Decision Sciences*, 34(1), pp.1–29.

Keil, M., Mann, J. & Rai, A., 2000. Why Software Projects Escalate: An Empirical Analysis and Test

of Four Theoretical Models. *MIS Quarterly*, 24(4), pp.631–664.

Kvale, S., 2007. *Doing Interviews*, Sage Publications.

Lee, A.S. & Baskerville, R.L., 2003. Generalizing Generalizability in Information Systems Research. *Information Systems Research*, 14(3).

Lewin, K., 1935. *A dynamic theory of personality*, New York, NY: McGraw-Hill.

Liang, H. & Xue, Y., 2009. Avoidance of Information Technology Threats: A Theoretical Perspective. *MIS Quarterly*, 33(1), pp.71–90.

Markus, M.L. & Tanis, C., 2000. The Enterprise System Experience — From Adoption to Success. *Framing the Domains of IT Management: Projecting the Future Through the Past*, pp.173–207.

Meissonier, R. & Houzé, E., 2010. Toward an "IT Conflict-Resistance Theory": action research during IT pre-implementation. *European Journal of Information Systems*, 19(5), pp.540–561.

Mintzberg, H., 1985. Of Strategies, Deliberate and Emergent. *Strategic Managemtent Journal*, 6(25), pp.7–2.

Pinsonneault, A. & Beaudry, A., 2005. Understanding user responses to information technology: a coping model of user adaptation. *MIS Quarterly*, 29(3), p.2005.

Preston, D. & Karahanna, E., 2009. How To Develop a Shared Vision: The Key To IS Strategic Alignment. *MIS Quarterly Executive*, 8(1), pp.1–8.

Preston, D.S. & Karahanna, E., 2009. Antecedents of IS strategic alignment: A nomological network. *Information Systems Research*, 20(2), pp.159–179.

Reich, B.H. & Benbasat, I., 2000. Factors That Influence the Social Dimension of Alignment between Business and Information Technology Objectives. *MIS Quarterly*, 24(1), pp.81–113.

Roth, S. & Cohen, L.J., 1986. Approach, avoidance, and coping with stress. *The American psychologist*, 41(7), pp.813–819.

Sabherwal, R. & Chan, Y.E., 2001. Alignment Between Business and IS Strategies: A Study of Prospectors. *Information Systems Research*, 12(1), pp.11–33.

Sabherwal, R., Hirschheim, R. & Goles, T., 2001. The Dynamics of Alignment: Insights from a Punctuated Equilibrium Model. *Organization Science*, 12(2), pp.179–197.

Sambamurthy, V. & Zmud, R.W., 1999. Arrangements for Information Technology Governance: A Theory of Multiple Contingencies. *MIS Quarterly*, 23(2), pp.261–290. Available at: http://www.jstor.org/stable/249754.

Sambamurthy, V. & Zmud, R.W., 2000. Research Commentary: The Organizing Logic for an Enterprise's IT Activities in the Digital Era - A Prognosis of Practice and a Call for Research. *Information Systems Research*, 11(2), pp.105–114.

Schlosser, F., Wagner, H.T. & Coltman, T., 2011. Reconsidering the dimensions of business-IT alignment. In *Proceedings of the Annual Hawaii International Conference on System Sciences*. pp. 5053–5061.

Shpilberg, D. et al., 2007. Avoiding the Alignment Trap in Information Technology. *MIT Sloan Management Review*, 49(1), pp.51–58.

Strauss, A.L., 1987. *Qualitative analysis for social scientists*,

Tallon, P.P., 2008. A Process-Oriented Perspective on the Alignment of Information Technology and Business Strategy. *Journal of Management Information Systems*, 24(3), pp.227–268.

Tanriverdi, H., Rai, A. & Venkatraman, N., 2010. Reframing the dominant quests of information systems strategy research for complex adaptive business systems. *Information Systems Research*, 21(4), pp.822–834.

Tversky, A. & Kahneman, D., 1992. Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty*, 5(4), pp.297–323.

Tversky, A. & Kahneman, D., 1981. The framing of decisions and the psychology of choice. *Science*, 211(4481), p.453.

Van de ven, A.H. & Poole, M.S., 1994. Explaining development and change in organizations. *Academy of Management Review*, 20(3), pp.510–540.

Wagner, H.-T., Beimborn, D. & Weitzel, T., 2014. How Social Capital Among Information

Technology and Business Units Drives Operational Alignment and IT Business Value. *Journal of Management Information Systems*, 31(1), pp.241–272.

Wastell, D.G., 1999. Learning dysfunctions in information systems development: Overcoming the social defenses with transitional objects. *MIS Quarterly: Management Information Systems*, 23(4), pp.581–600.

Wei, H.-L., Wang, E.T.G. & Ju, P.-H., 2005. Understanding misalignment and cascading change of ERP implementation: a stage view of process analysis. *European Journal of Information Systems*, 14(4), pp.324–334.

Yin, R.K., 2009. *Case Study Research: Design and Methods* L. Bickman & D. J. Rog, eds., Sage Publications.

van der Zee, J.T.M. & de Jong, B., 1999. Alignment Is Not Enough: Integrating Business and Information Technology Management with the Balanced Business Scorecard. *Journal of Management Information Systems*, 16(2), pp.137–156.

Zhang, G.P. et al., 2003. Predicting information technology project escalation: A neural network approach. *European Journal of Operational Research*, 146(1), pp.115–129.