Aligning Alignment with Strategic Context: A Literature Review

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Abstract *The alignment of business and IT has been a persistent topic of discussion in the past decades. As information systems have evolved from an administrative support function to an integral part of business fabric, the classic "internal" perspective adopted by the bulk of alignment research falls short in accounting for the dynamic business network context and continuous evolution with the environment. The information systems planning and strategy discourse should transcend the notion of "alignment" and bring out the strategy-shaping role of IT. This paper presents a classification of business–IT alignment approaches vis-à-vis respective schools of thought in strategic management. Both disciplines are seen to co-evolve with the increasingly complex "strategic context". The approach is meant to help contextualize extant and future work in terms of underlying assumptions and thereby make more conscious statements about the practical applicability of research topics, methods and results in varying contexts. As relatively simple, static and mechanistic conceptualizations of strategy and business–IT alignment render inadequate, concepts such as dynamic capabilities, co-evolution and organizational ambidexterity represent a more adaptive and more encompassing approach to make sense of the increasingly complex strategic context.*

1. Introduction

One of the enduring themes in information systems planning and strategy is the *alignment* of business and IT. The business–IT alignment, or strategic alignment, is commonly viewed as a desired and important factor and driver of optimizing business performance. The impact of alignment on business performance has been studied for several decades (e.g. [37][51][9][91][45][79][53][54][55]).

The notion of alignment has its roots in the "design school" of strategy, where the essential components are the extent of congruence, or fit, between an organization's internal structure and its external situation [61]. Strategy is concerned with a match between internal resource capability and external opportunity towards superior performance [73]. In contemporary business environment, where organizations need to be innovative, flexible and faster due to uncertainty, complexity and change of the "environment", the complex and diverse nature of strategy renders the concept of alignment increasingly problematic. Strategy is no longer a "big idea" for many companies as business environment is far different – calling for new means to conduct and contextualize strategy [35]. Strategy is seen more as an emergent [63] and continuous practice based process [100].

In digital enterprises, where the marketplace is global and interconnected, discontinuities such as technological breakthroughs, new regulations, and geopolitical upheavals are frequent and non-linear. The competitive advantage is in constant flux and organizations are forced to find ways to reinvent their very essence without falling apart [34]. The advances in technology both enable and drive firms to change their business models. Digitalization and networked information economy have brought unprecedented changes to markets and business models, disrupting entire industries [7]. Phenomena, such as disintermediation and reintermediation [29], digital goods [74], dematerialization and liquification of resources [66], and new types of technology-mediated interactions brought by the Internet [15] characterize the digital enterprise. Information systems have evolved from administrative, functionally oriented support systems to an integral part of business fabric that is fused into products and services.

The classic "internal" perspective adopted by the bulk of alignment research falls short in accounting for the dynamic business network context and continuous evolution with the environment. We view that the information systems planning and strategy discourse should transcend the notion of "alignment" and its associated connotations

of "business–IT divide" and "IT follows business". It should rather acknowledge the strategy-shaping role of IT (cf. [18]). Thus, alignment as the underlying concept of IT management and governance frameworks and practices needs to be reviewed in the context of contemporary perspectives on strategy and strategizing. In line with the recent observation that the traditional notion of strategic fit has possibly lost its explanatory power [104], we concur that organizations should defer from focusing too much on either efficiency or flexibility and rather develop dynamic capabilities [90] that enable a more balanced, ambidextrous [68] behavior between exploitation and exploration [59].

Motivated by Leonard's [50] call for exploring alternative approaches to alignment, this article attempts to outline the evolution of alignment discourse vis-à-vis relevant strategic management concepts in order to provide a better understanding of the assumptions and perspectives on strategizing that underlie previous alignment research. Our aim was not to conduct an exhaustive analysis but merely suggest linkage points between strategic management approaches on one hand, and various approaches to business–IT alignment on the other hand, in an attempt to uncover ontological assumptions underlying alignment research toward strategy and strategizing. The approach is meant to help contextualize extant and future work in terms of underlying assumptions and thereby make more conscious statements about the practical applicability of research topics, methods and results in varying contexts, We view that this reconceptualization would help identify and manage IT-based competencies and capabilities in digital enterprises where IT is a core business asset.

The article is organized as follows. First, we outline the evolution of business–IT alignment concepts. In conducting the review, we followed the systemic approach suggested by Webster and Watson [97]. The aims of a systematic review can be varied and include: (1) clarifying the relative strengths and weaknesses of the literature on the question, (2) summarizing a fairly large amount of literature, (3) resolving literature conflicts, (4) avoiding a redundant unnecessary case, and (5) improving the generalizability of literature findings. Our aim is to provide a contemporary view of the previous work and highlight various gaps by analyzing relevant literature. We first analyze "major contributions" in the field; secondly review "backward" and "forward" cited articles. We acknowledge that our review is limited, but it should provide a relevant coverage of the field. Also, we have limited our review to publications in English language only. After providing an overview of the extant alignment research, we compare the models with corresponding strategic management literature and based on our interpretative understanding of the ontological assumptions in selected models. Thereby, we identify the general tone of the alignment discourse throughout time, the underlying assumptions, as well as respective approaches to strategic management. Finally, we uncover underexplored fields in alignment research and chart out possible future directions for alignment discussion based on a more synergistic, ambidextrous concept of alignment.

2. Alignment Research – An Overview

The term align originates from the French word *ligne* meaning "line" and the Latin word *linea* meaning "string". It has the following meanings: a) to bring into line or alignment b) to array on the side of or against a party or cause (transitive verb) or a) to get or fall into line b) to be in or come into precise adjustment or correct relative position (intransitive verb) [92]. Thus, the notion of alignment suggests a sequential execution from strategy to IT.

In their extensive bibliographical study, Chan and Reich [20] summarized 150 different articles on alignment, spanning three decades of research in the field. The articles use several terms for alignment such as fit, linkage, integration, coherence, harmony, fusion, congruence and variation. These are all used for alignment, although some minor differences in their use exist. The term business–IT alignment also takes different forms in the literature, and can be written as business/IT alignment, business and IT alignment, business–IT alignment, IT alignment, and alignment of business and IT, all meaning the same. Also the terms IT, ICT and IS are often used interchangeably.

Several models of alignment have been proposed by adopting the organization view [48]. The early approaches to alignment include alignment coordination model [49], fit [96] and forces interaction [56]. MacDonald [56] and Baets [2] were among the first ones to associate a process view to alignment. As the technological development lead to a wider adaptation and use of IT, the tension of new technology choices [39] induced seeking for balance between alignment [37], linkage [77], and harmony [103].

In line with Henderson's and Venkatraman's [37] strategic alignment model (SAM), the bulk of alignment research builds on the principle of separation between business and IT domains with a number of variable elements, such as organizations, plans, processes, competences etc. The SAM model is probably the most widely adapted

model of alignment and it has been studied from the empirical perspective (e.g. [14][1]) and also extended by other researchers (e.g. [52][57][58][1]). More recent studies have approached strategic alignment from the perspectives of resource-based view [42][43] and dynamic capabilities [76][21][28][4] attempting to bridge the "gap" between IT, alignment and strategy research.

Several dimensions of alignment are discussed in literature including strategic, intellectual, structural, social and cultural [22]. The strategic dimension focuses on the complementary aspects of business and IT strategies and plans, including aspects of strategic information systems planning. The structural alignment dimension focuses on the structural fit between business and IT decision-making structures and organizations. The role of informal structures (relationships and communication) in alignment success has also been discussed in literature [19]. The social dimension is defined as the state in which business and IT executives within an organizational unit understand and are committed to the business and IT mission, objectives, and plans [78].

The result of three decades of alignment studies has brought us an astonishing set of partly competing, partly overlapping approaches, models and frameworks. There is a steady growth in the number of academic papers on alignment and the main bulk of research consists of work developing new instrumental support artifacts for alignment [44]. On one hand, the pluralism is the strength of the field: different perspectives and disciplinary contributions provide far more insights into the relationship between business and IT than any single perspective could do. On the other hand, the proliferation of models, concepts and frameworks fosters complexity in which it seems easy to get lost. From the practitioner's point of view, there is a challenge in knowing *which* model to apply, *when* and *how*.

Apparently, academic research on alignment has provided little practical value to organizations. Previous arguments to this phenomena point to models, which are not feasible to apply, which were developed conceptually, and that do not derive from the real world [18]; validated results are not concise, and models are prone to subjectivity [104][1]. Other arguments for the lack of value refer to overly mechanistic models, which are unsuitable for contemporary organizations [38].

The mechanistic approaches do not account for organizations as organic, dynamic, and ambiguous wholes, with relationships that are parallel and simultaneous [93]. Many approaches also omit the formal and informal roles of participants – e.g. people – in organizations. Leavitt's [48] argument that organizations could be usefully viewed as complex socio-technical systems, comprising four elements (objectives, structure, technology, and people), is overlooked in many models.

Already in the 90's, Ciborra [17][18] points out that much of the alignment discussion naïvely assumes that enterprise reality can be captured objectively and can be controlled and made predictably via linear cause and effect chains. He further questions the implicit dominance of a structured strategy process in an era when uncertainty and flexibility predominate and when the articulation of the strategic intent is difficult. This poses a significant challenge, because most alignment models presuppose an existing business strategy to which an IT organization can align itself [21].

There is a general agreement that organizations with "high" alignment outperform those with "lower" alignment of business and IT. Tallon and Kraemer [86] found a positive and significant relationship between strategic alignment and IT payoffs, but they also uncovered evidence of an alignment paradox: beyond a certain critical point, further increases in strategic alignment lead to lower IT payoffs. Especially so-called dual focus firms are "forced to rethink any move that involves an increase in strategic alignment if at the same time this could lead to a reduction in the payoffs they realize from their IT investment". Short-term IT support for the business strategy may limit organizational flexibility and prevent the organization from responding to the changes in the environment at some future point.

In a similar vein, Sphilberg et al. [81] maintain that an organization that aligns IT well with business, but is not effective, tends to fall in an "alignment trap", where IT spending is in increase but growth is slow in coming. Sphilberg and his colleagues found that for the majority of high-performing organizations that are both highly aligned and highly effective, the path has been that of first increasing the effectiveness of the IT organization, while temporarily forgetting about enhancing alignment. This may require changing the alignment perspective from that of traditional strategy execution to an appropriate alternative (cf. [37]).

3. Alignment and Strategic Management

The evolution of modern approaches to strategic management can be characterized by the dichotomy between two research streams: *strategy content* and *strategy process*. Content research seeks to answer the question of *what* constitutes competitive advantage; process research is concerned with *how* strategies emerge over time [60]. The former research stream seeks to understand the relationship between strategy and performance using a structural approach to industries and competitive forces, whereas the latter stream is about descriptive studies of how strategies are formed and implemented.

In aligning alignment approaches with respective schools of thought in strategic management as presented in Table 3.1, we have used this division between content (*what*) and process (*how*) as a guiding principle in lining up respective approaches and streams. Few alignment approaches explicitly base their arguments on a certain strategic management theory. As some of the selected alignment models include both *structural* and *process* elements, our assessment is based on an interpretative understanding of the focus or "*the center of gravity*" of each approach and the tone of the discussion by the authors.

Table 3.1 Strategic Management Viewpoints and Alignment Approaches

	Strategic Management	**Respective Alignment Approaches**
Content-Based Stream		
Market-Based View	Hedley 1977 [36] Porter 1980 [73]	Henderson and Venkatraman 1993 [37] Maes 1999 [57] Bergeron, Raymond and Rivard 2004 [10]
Resource-Based View, Knowledge-Based View	Wernerfelt 1984 [99] Barney 1991 [5] Peteraf 1993 [72] Grant 1996 [32] Sveiby 2001 [84]	Kearns and Lederer 2003 [46] Peppard and Ward 2004 [71] Kearns and Sabherwal 2006 [47]
Dynamic Capabilities	Teece et al. 1997 [89] Eisenhardt and Martin 2000 [25] Benner and Tushman 2003 [8] Teece 2007 [90]	Sun and Chen 2006 [83] Chen et al. 2008 [23] Gogan et al. 2010 [31] Baker et al. 2011 [4]
Ambidexterity	March 1991 [59] O'Reilly and Tushman 2007 [69] Gibson and Birkinshaw 2004 [30]	Sabherwal et al. 2001 [80]
Process-Based Stream		
Strategy as Process	Mintzberg 1973, 1978 [62][63] Johnson 1987 [43] Burgelman 1986, 1991 [11][12] Moncrieff 1999 [65]	Baets 1992, 1996 [2][3] Burn 1996 [13] Reich and Benbasat 2000 [78] Peppard and Breu 2003 [70] Benbya and McKelvey 2006 [6]
Strategy as Practice	Whittington 1999, 2003, 2006 [100][101][102] Jarzabkowski 2003, 2005 [40][41] Vaara and Whittington 2012 [94]	Ciborra 1997 [18] Galliers 2006, 2007, 2011 [26][27][28] De Vaujany 2008 [95]

3.1. Content-Based Stream

Porter [73] points out that competition goes beyond established industry rivals to include four other competitive forces as well: customers, suppliers, potential entrants, and substitute products. However, this market-based view of strategy is not interested in the resources businesses have and treats their behavior as a "black box". Competitive strategy determines how the organization gains an advantage over its rivals within chosen market positions [73]. Although these strategic choices are numerous, the environment is assumed as relatively stable and major changes (e.g. disruptive technologies, market upheavals) as infrequent.

Classic *structural* approaches (e.g. [37][57]) to business–IT alignment presume an external strategy to *align to;* the relationship to business strategy is more sequential, following the "IT follows business" mindset, and the focus is more on *what* needs to be aligned but there is far less consensus on *how* the alignment is to be achieved [50].

In parallel to the market-based view, other studies switched their focus from industry structure as a unit of analysis to that of the organization's internal structure, resources and capabilities. According to the resource-based view (RBV) [99][5][72], asymmetries in the resources and capabilities of businesses in the same industry are the source of competitive advantage. To sustain this competitive advantage, the resources need to be valuable, rare, inimitable and non-substitutable [5]. The knowledge-based view (KBV) is similar to RBV, but instead of a broad range of resources as the basis of corporate strategy, the knowledge-based view focuses on a particular type of resource – knowledge. Knowledge is seen "as the most strategically important of the firm's resources" [32].

From the RBV perspective, strategic IT alignment can create competitive advantage, when it represents a complex organizational process that is both heterogeneous and immobile [46]. The process of strategic IT alignment is a capability in itself and advantage occurs when IT is used to leverage the organization's resources in some inimitable way (ibid.). When alignment is seen through the lens of the resource-based view, value comes not from replication but from uniqueness [85]. Knowledge-based view on alignment [47] concentrates on the knowledge-based theory [32] linking knowledge considerations to strategic alignment and business effects of IT.

In more dynamic markets, however, resource fortification of the RBV can be problematic. The focus of competition is shifting from the management of internal resources to selecting and developing technologies and business models that build competitive advantage, through assembling and orchestrating difficult-to-replicate co-specialized assets [89]. The dynamic capability approach (e.g. [89][25][8][90]) focuses on how organizational and strategic management competencies can enable organization to explore, exploit and capture market opportunities in order to achieve and sustain competitive advantage in an open, rapidly changing environment [8][90]. The dynamic capability perspectives on alignment focus on adapting, integrating, and reconfiguring skills, resources and abilities, and view alignment process as a dynamic capability that reconfigures specific IT assets to support other core resources ([83][23][31][4]).

March [59] observed that organizations tend to concentrate either on capabilities for exploitation or exploration. Exploitation focuses on activities and behaviors that improve the performance of the current business, whereas exploration aims at ensuring the future effectiveness of the business. Exploitation is about efficiency, increasing productivity, control, certainty and variance reduction; exploration is about search, discovery, autonomy, innovation and embracing variation [68]. However, a dominant focus on either exploitation or exploration may result an undesired situation for the organization [75][104].

An organization that is able to simultaneously explore and exploit is called *ambidextrous* [68]. Recent studies on organizational ambidexterity [30][75][76][104] show that organizations that achieve a high-level balance between both exploitation and exploration are more successful than organizations that focus only on either set of capabilities. From a strategic management perspective, the punctuated equilibrium viewpoint of alignment by Sabherwal et al. [80] can be considered as ambidextrous as it corresponds to the cyclical domain in the typology of Simsek et al. [82], in which ambidexterity is achieved through sequential allocation of resources on relative stable exploitation interspersed by sporadic episodes of quick exploration and change.

3.2. Process-Based Stream

The alignment models corresponding to the process stream of strategic management research focus on the dynamism of business–IT alignment, the co-evolutionary development of both strategy and IT strategies and on the social dimension of alignment. These models highlight the importance of the process in which internal politics, organizational culture, managerial cognition and skills help achieve and maintain high alignment. The central theme is that alignment is perceived mainly as a dynamic, ongoing process and not as a conceivable end-state.

More recently, the strategy-as-practice approach to strategic management [100] depicts strategy as an activity undertaken by people, not as a formal property of organizations. From an epistemological point of view, the strategy-as-practice approach understands practice as being "closer" to reality and delivering a "more accurate" description of the real world phenomena than formal theories populated by multivariate analyses of firm or industry-level factors. The strategy-as-practice approach is very much couched in European characters and is clearly to be understood as a systematic critique of orthodox, hegemonic, and mainly North American-inspired strategy research [16].

In line with this strategy-as-practice viewpoint, Ciborra [17][18] argues that serendipity and improvisation (e.g. "tinkering" and "bricolage") are more likely to yield competitive advantage from information systems than deliberate planning of the type that is generally prescribed when seeking strategic alignment. He emphasizes the role of praxis and notes that organizations that consistently pursue IS innovation are more likely to have unique capabilities developed over time, through experience or tinkering with multifarious technologies, that enable them to quickly assess the potential of emerging technologies to contribute to their business strategy.

De Vaujany [95] argues that multilayered, multifaceted nature of IS strategic value is shaped and reshaped by the intra- or extra-organizational praxis of some leading actors originating the value. In this view, the focus of management should be on IS strategic potential, IS realized values, and final economic performance, rather than on business–IT alignment. All this should then be considered as a complex "system in practice".

Galliers [26][27][28] focuses also more on the process of strategizing rather than on the outcome of the process. He argues that benefit is to be gained from a more inclusive, exploratory approach to the strategy process. He further proposes a strategizing framework facilitating modes of exploitation and exploration. The process of exploitation adopted in the framework bears many of the hallmarks of mainstream thinking on the IS strategy, and in the exploration aspect the emphasis is much more on issues associated with situated learning, communities of practice and cross-project learning. The idea is to accommodate both deliberate and emergent modes of strategizing.

4. Discussion

In this paper, we conducted a literature review and put forth a classification of business–IT alignment approaches by respective schools of thought in strategic management. Our aim was not to conduct an exhaustive analysis but merely suggest linkage points between strategic management approaches on one hand, and various approaches to business–IT alignment on the other hand, in an attempt to uncover ontological assumptions underlying alignment research toward strategy and strategizing. The approach is meant to help contextualize extant and future work in terms of underlying assumptions and thereby make more conscious statements about the practical applicability of research topics, methods and results in varying contexts. More specifically, if the complexity of the strategic context, de facto, precludes certain paradigmatic approaches to strategic management (e.g. the market-based view), it also rules out respective stances of business–IT alignment.

It is to be noted that many other ways to categorize both strategic management and alignment approaches could be used as an analytical lens. One alternative approach would be for example utilize the typology of ten strategic management schools by Mintzberg et al. [64] as a base of analysis.

In their research concerning ambidexterity and fit in strategic management, Wulf et al. [104] concluded that ambidexterity is a much better predictor of organizational performance than the concept of strategic fit. They argue that top management should defer from a too focused alignment of the organization on either efficiency or flexibility. Instead the management should aim to develop capabilities for ambidexterity to ensure sustained high performance.

In line with Galliers [27][28], we subscribe to the holistic approach in which both exploitation and exploration are accounted for. Also, recent research by Tallon and Pinsonneault [87] notes the usefulness of ambidexterity in thinking about alignment and agility in IS research.

Examining presented alignment models through the taxonomy presented by Simsek et al. [82], the punctuated equilibrium model by Sabherwal et al. [79] is comparable with *cyclical ambidexterity*. For other dimensions of ambidexterity – *reciprocal, partitional* and *harmonic* – the compatibility of extant alignment models is debatable.

In the *reciprocal* dimension, ambidexterity is achieved through the efficient specialization of exploitation and exploration across intra- or inter-organizational network where different strategic stances can be pursued sequentially across different participants.

In the *partitional* dimension, ambidexterity is achieved through structural partitioning of the pursuit of exploitation and exploration into separate units each having its own strategies and structures [8].

From the alignment perspective, both *reciprocal* and *partitional* ambidexterities present a number of challenges, such as *what* to align, to *whose* strategies to align to and *who* maintains the balance between different perspectives. Alignment problems are especially relevant in these dimensions if organization in question pursues centralized or federal IT governance archetypes [98].

From the alignment perspective, the *harmonic* ambidexterity, the concurrent pursuit of exploitation and exploration harmoniously within the same organizational unit is probably hardest to accommodate to. This dimension is inherently challenging as simultaneous pursuit can lead to conflicts, contradictions and inconsistencies in all areas, including IT. This happens since pursuing harmonic ambidexterity becomes intertwined in both strategic and operational activities of the unit's culture, structure and systems [12]. In this dimension, alignment approaches based on strategy as practice perspective are probably more suitable as this dimension places a premium on individual's learning and integrative abilities in line with Ciborra [18] and Galliers [27][28].

The digital enterprises with virtual value chains can be described as complex adaptive business systems, where the competitive performance landscapes of products and services are highly dynamic and co-evolve. This challenges the notion of "alignment" as the question of overarching strategy has become difficult to answer. Consequently, aligning IS strategy with competitive strategy alone might offer limited and inconsequential results [88].

Sustainable competitive advantage of a complex adaptive business system requires that organizations co-evolve within the dancing, rugged competitive landscape. Agility in adaptation to the changing environment is vital but not enough. Given the long lead times and costs entailed in the development and deployment of IT capabilities, the core assumptions and models that become embedded in the IT capabilities tend to structure the actions of organizations and to remain relatively static over a long period of time. Structures embedded in IT pose risks for the organization's attempts to co-evolve [88].

Galliers [27] also rises a question of how to align a relatively fixed IT that is implemented in an organization with a business strategy and associated information requirements that are in constant need of adjustment. He names the lack of dynamism as one of the core problems with alignment and calls for flexible – or agile – IT. Galliers also argues that some organizations, in pursuing efficiency and reducing costs through IT, may have lost agility in the process.

Oh and Pinsonneault [67] note that trying to sustain "perfect" alignment may be an illusionary concept, given the speed and magnitude of changes affecting organizations. They posit that organizational complexities hinder organizations from perceiving the true consequences of misalignment. Just as a small environmental change can cause a significant impact on the sustainability of alignment, a small change in alignment can result in a dramatic consequence for organizational performance. They conclude that continuous refinement and fine-tuning are necessary to maintain superior organizational performance.

Doz and Kosonen [24] discuss how to enable business model renewal and how to make an organization more agile by developing three core meta-capabilities: strategic sensitivity, leadership unity and resource fluidity. Strategic sensitivity pertains to "the sharpness of perception of, and the intensity of awareness and attention to, strategic developments." As such, it likens to Teece's *sensing* of new opportunities [89][90]. Leadership unity, in turn, can be seen corresponding to *seizing* opportunities (ibid.); it is about integrated and fast decision-making by the top management to consolidate pertinent prospects. Resource fluidity refers to the internal capability to reconfigure capabilities and rapidly redeploy them. Again, apparent analogy to Teece's *reconfiguration* (ibid.) can be seen.

We maintain that relatively simple, static and mechanistic conceptualizations of strategy and business–IT alignment are being challenged by more adaptive and more encompassing views. The dynamic capabilities approach, co-evolutionary views and the concept of ambidexterity can be seen as representative of approaches to make sense of the increasingly complex, technology-induced strategic context.

5. Conclusions

After reviewing the literature on business–IT alignment and recent developments in the field of strategic management, we view that the current alignment discussion is still biased towards a mindset, in which IT is seen as a separate, value-adding function, whose focus is on present-day value realization, operational quality and reliability rather than as the source of strategic advantage.

Most business–IT alignment models adopt a static, mechanistic and segmented worldview on organizations and technology, in which alignment is conceived as known, quantifiable, achievable and measureable [38]. In digital enterprise settings, however, thinking alignment in mechanistic terms may be limiting at best, and fatal at worst, as current "status-quo" of business and IT is constantly being challenged by new realities, non-linear discontinuities and incessant technological development. The classic alignment models based on the notion of competitive strategy [73] or resource-based view [99][5][72] are not sufficient in the agile, networked and complex business environment that calls for new cognitive and systemic capabilities in leadership, technology and processes. A narrow focus of alignment underestimates the systemic complexity of IT that addresses different business needs [81].

As the role and importance of information and information systems in contemporary organizations increase, new perspectives are needed in managing, operating and innovating IT-based business models. The agile, networked and complex business environment of today calls for the extension of existing management principles and practices to embrace higher levels of complexity and multifaceted nature of alignment and adaptive capabilities. New concepts and theories that can provide the genesis of a new management paradigm are needed [33].

Accordingly, we view that the future of business–IT alignment research and discussion should be based on more contemporary notions of strategic advantage. One such development would be to embrace the notion of dynamic capabilities and the ambidextrous forms of organizations. Since IT is an extension of strategy in contemporary organizations, the alignment discussion and models should reflect the notion of strategic ambidexterity – the balance between exploitation and exploration capabilities. However, since exploiting existing competences and exploring new opportunities involve contradictory capabilities, the question is how organization can achieve and maintain the balance between these orientations. Possible solutions proposed by previous research in strategic management highlight the role of structural, contextual and leadership-based solutions in achieving ambidexterity.

The next step would be to extend the tentative results of this literature review with empirical analysis on how organizations have achieved organizational ambidexterity and how this is reflected in information systems planning and strategy practice; whether extant alignment approaches are suited to ambidextrous organizations; and how to asses business-IT alignment in a such contexts?

The developmental requirements of the executives open up a research avenue in its own right: what "dynamic leadership capabilities" are required from business and IS leaders to create and run ambidextrous organizational forms and carry out business model change?

6. References

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