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Is SAM still alive? A bibliometric and interpretive mapping of the strategic alignment research field

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ABSTRACT

The strategic use of IS and the alignment of IT with business needs are important managerial issues that need to be addressed if optimal organizational performance is to be achieved. IS research has proposed models to optimize the impact of IS investment on organizational performance. The Strategic Alignment Model (SAM) proposed by Henderson and Venkatraman is the most well-known and widely used of these models. However, 20 years on, there remains a significant disparity between the intended contribution of the literature built around SAM and the apparent practical consequences of its application in organizations. In this study, we explain this disparity using a grounded theory stance with a bibliometric and interpretive approach to help us analyze the literature: We use tri-citation analysis (with bibliometric data collected in 2011, and again in 2014) and investigate interpretatively the contents of the texts highlighted by our statistical results. This allows us to show that the research field built around SAM mostly appears not to challenge its basic assumptions and premises, although these may artificially constrain organizational reality and practices. In turn, this leads us to propose an explanation for practitioners' apparent failures to fulfill SAM's intended contribution. Beyond our theoretical and methodological contributions, we propose possible theoretical and practical improvements to adapt this model to the current organizational reality.

Introduction

Merali et al. (2012) identify four priorities for change in the strategic information systems (SIS) research domain: "conceptualisation of the SIS Domain as a Complex Adaptive System for the co-evolution of Physical and Social Technologies; the adoption of the network paradigm; access to a science of networks; and adoption of Complexity Science as an articulation device within SIS and across disciplines" (p. 125). Through a bibliographic and interpretive approach to the strategic alignment field, the present study identifies a fifth priority: the need for renewed awareness and revision of the assumptions and premises on which many concepts and models of the SIS field are currently being built.

Robert Solow's memorable words "you can see the computer age everywhere but in the productivity statistics" (1987), have had a significant and enduring[1] impact on the information systems (IS) community (Carr, 2003; Seddon, 2014). This

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[1] To witness the still current relevance of this issue, it may be interesting to note that Brynjolfsson and Hitt who discussed this issue in 1996 have been cited 410 times including 165 times during the last five years (Source: Web of Science).

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statement has been subsequently named "the productivity paradox" (Brynjolfsson, 1993); it suggests a lack of positive correlation between an organization's information technology (IT) investments and its productivity. The literature extended this more broadly to the firm's performance (Melville et al., 2004) as well as to its ability to develop a competitive advantage through value creation (Kohli and Devaraj, 2003). In his 2003 article, Nicholas Carr voiced skepticism regarding IT value, implying that organizations cannot obtain a competitive advantage from IT. Moreover, other authors claimed that organizations appear to over-invest in IT instead of focusing on the business itself (Anderson et al., 2003). A number of authors "largely resolved" the productivity paradox (Gregor et al., 2006: p. 250) by suggesting that it was mainly caused by measurement issues and analytical bias as well as mismanagement (Brynjolfsson and Hitt, 1996). Accordingly, researchers reoriented their focus: instead of attempting to prove the importance of IS for organizations, they focused on the necessity of optimizing IS management within organizations (Reix and Rowe, 2002). Moreover, such scholars began to develop theoretical frameworks and models aimed at helping managers efficiently manage IS.

The Strategic Alignment Model (SAM) is one such model, and to date has remained one of the most utilized models both in the literature and in corporations (Avison et al., 2004). It was first proposed by Henderson and Venkatraman in two conceptual working papers (1989, 1990) and popularized in 1993 in an article published in the IBM System Journal (hereafter referred to as "HV93"). Today, more than two decades later, HV93 is considered a seminal text, largely because SAM is at the source of one of the most active research areas in the field of Management Information Systems (MIS: Chan and Reich, 2007a, 2007b; Corrall, 2000; Earl, 1996; Labovitz and Rosansky, 1997), and because both business and IS practitioners consider strategic alignment to be a key issue (Luftman et al., 2006; Papp, 2001; Luftman et al., 1999; Tallon et al., 2000; Trainor, 2003).

Despite the rational prescriptions for managers that have come about as a result of this model, there is no lack of stories about failed change projects involving IT. Every year, organizations invest billions of dollars in IT, with a relatively low success rate (about 29% – See Chaos report, 2015 by the Standish group). Thus, another inconsistency has subsequently emerged: a lack of congruence between, on one hand, the intended purpose of the strategic alignment literature's theoretical recommendations toward gaining competitive advantage and, on the other hand, the practical results witnessed in firms. This issue must be addressed and explained.

SAM is anchored to contingency theories, which have been severely criticized by authors from both the organizational field (Longenecker and Pringle, 1978; Mohr, 1971; Pennings, 1975; Schoonhoven, 1981) and the strategic management field (Leonard-Barton, 1992; Meyer et al., 1993). More than 20 years after SAM was first proposed, the time may have come to question its legacy and investigate the theoretical, philosophical and epistemological bases on which the strategic alignment literature that is anchored to SAM has been developing over the years.

To conduct the present research, we took an exploratory classic grounded theory (GT) approach (Glaser, 1978; Glaser and Strauss, 1967). In line with classic GT precepts, we did not have a precise research question when we started our research. Our original intention was to broadly investigate the structure of the field and how SAM was diffused and legitimated over the years. We used bibliometrics to do so and we found that our results guided us toward a possible explanation for the issue highlighted above, which is the disparity between the strategic alignment literature's intended contribution and the apparent practical consequences of its application in organizations.

In a cumulative research tradition, such as MIS, research tends to cluster in informal networks within which similar problems are addressed in similar ways (De Solla Price, 1963). Within these networks, concepts and findings are exchanged, extended, tested, refined, and diffused (Culnan, 1986). All studies within a network are built upon other studies that they cite in their bibliographies; those citations, which they have in common, link them. In the present article, in order to analyze the combined logic of the literature built around HV93, we go beyond studying individual articles and, instead, study groups of articles, i.e. the network of articles mobilized through and around the original HV93 seminal article. Accordingly, using a bibliometric approach to highlight this network, and a qualitative approach to investigate it in depth, we examine SAM's diffusion and legitimation through a retrospective study of the literature. We make use of tri-citation analysis (TCA: Marion, 2002; McCain and McCain, 2002; McCain, 2009), which has rarely been used in IS research. TCA is similar to co-citation analysis (CCA: Garfield, 1979; Small, 1973), yet it constrains the analysis by adding a third reference (in our case, HV93) that must be shared by the entire sample of references (Marion, 2002). We apply this method with data collected in 2011 (Phase 1) and 2014 (Phase 2) to identify several theoretical *pillars* in the strategic alignment literature. This allows us to reduce a field that includes over ten thousand references to a core set of articles within which we identify significant theoretical clusters. We then code the content of the texts in each cluster.

Hence, our reading and analysis of the literature is guided by bibliographic data and bibliometric analyses. We draw on two sets of data: (i) bibliographic data, i.e., quantitative data resulting from co-citation counts and (ii) the content of the texts highlighted by the statistical analyses of the bibliographic data. We show how the theoretical *pillars used* in the strategic alignment literature (identified through the TCA) appear based on the same premises and assumptions as SAM, which have been neither questioned nor challenged. Our results allow us to infer some possible explanation for IS implementation failure rates in organizations. We also highlight alternative premises and assumptions, which have begun to emerge in the literature over the last decade or so, and are aimed at improving these failure rates.

The paper is organized as follows. First, we propose a theoretical overview of our work. Then, we describe our methodology and results. Finally, we discuss our results before investigating the limitations and contributions of our work, as well as possible avenues for future research.