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The IT buying center: Integrating the buying center and IT governance

Carsten Lund Pedersen

Department Business IT, IT University of Copenhagen, Denmark

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ABSTRACT

The construct of the "buying center" is arguably one of the most important concepts in the industrial-marketing literature. Despite many seminal studies, research into the buying center needs to take the many trends unfolding in the environmental context into account in order to remain relevant in the future. One particularly timely topic that has been overlooked by buying center research is IT governance. Against this backdrop, this study aims to examine how the dynamics of the buying center depends on the IT governance structure in the buying situation and the accompanying social networks. In so doing, the study contributes by: (i) cross-fertilizing the literature streams on the buying center, IT governance and social network analysis, (ii) proposing an integrative typology that provides a better understanding of the buying center from an IT-governance perspective, and (iii) outlining emerging propositions to guide future work.

1. Introduction

The construct of the "buying center" is arguably one of the most important concepts in the industrial-marketing literature. Its foundations lie in the seminal works of e.g. Robinson, Faris, and Wind (1967), Webster Jr and Wind (1972a, 1972b), Sheth (1973), Bonoma, Zaltman, and Johnston (1977), and Johnston and Bonoma (1981). However, despite these fruitful studies, progress towards making the abstract concept a concrete management aid or the focus of a well-established stream of literature was initially slow (e.g., Gronhaug & Bonoma, 1980; Wind, 1978). Some researchers even suggested that "The Buying Center is Dead, Long Live the Buying Center"—arguing that the concept has run its course and should be replaced with the "network" perspective (Bristor & Ryan, 1987). In a similar vein, Sheth and Sharma (1997) posited that the paradigm of procurement was changing due to technology enablers, global competitiveness, industry restructuring, and the total quality management (TQM) philosophy. Albeit much has happened since then (particularly in the technological domain), research into the buying center arguably still needs to take the many trends unfolding in the environmental context into account in order to remain relevant in the future.

As noted by Sheth and Sharma (1997, p. 93-94), the "use of information technologies including networked computing, quick response, electronic data interchange, and other computer programmed procurement methods have restructured the buying philosophy, processes, and platforms" and, as a consequence, "our older knowledge in organizational buying behavior is likely to be less and less valuable." While the technologies mentioned by Sheth and Sharma (1997) are now mainstream, their call is arguably more important than ever, as we face technological advances such as pervasive computing, 3D printing, biotechnology, wireless mesh networks, nanotechnology, robotics, and machine learning that are posed to fundamentally alter our lives in the years to come.[1] Particularly machine learning, and the related aspects of deep learning and neural networks, are already in the midst of changing the business landscape (Brynjolfsson & McAfee, 2014; Ritter & Pedersen, 2020; Steward, Narus, Roehm, & Ritz, 2019), and digital technologies such as social media (Bill, Feurer, & Klarmann, 2020) and SaaS (Raghavan, Jayasimha, & Nargundkar, 2020) are already affecting buying centers. These developments can be seen as both threats and opportunities for buying-center research. The threat arises from the fact that prior work may become obsolete in today's changing environment. The opportunity emerges from the possibility to update and renew extant knowledge in light of the ever-evolving context.

Against this backdrop, this paper seeks to take advantage of the aforementioned opportunity by viewing developments in information technology and social network analysis, i.e. strategies and methods for investigating social structures also referred to as structural analysis (e.g. Freeman, 2004; Gloor, 2017; Otte & Rousseau, 2002; Scott, 2011; Wen, Gloor, Fronzetti Colladon, Tickoo, & Joshi, 2020), as pivotal for understanding the modern buying center. Specifically, this study aims to examine how the dynamics of the buying center depends on the IT governance structure in the buying situation and the accompanying

E-mail address: calp@itu.dk.

[1] https://sloanreview.mit.edu/wp-content/uploads/2018/03/00c59a8098.pdf.

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social networks. IT governance refers to the specification of "decision rights and accountability framework to encourage desirable behavior in the use of IT" (Weill & Ross, 2004, p. 8), and can be seen as the contextual formalization of buying centers in IT procurement. Both the buying center and IT governance can be studied from a social network analysis perspective, as such a perspective would surface key actors in the network that comprise the buying center in the IT governance setting and highlight their structural communication and interaction patterns.

While research on the buying center, IT governance and social network analysis comprise established fields of study on their own, little cross-fertilization has emerged (see Fig. 1 for an overview of results based on combinations of search terms). When running a preliminary search on SCOPUS and Web of Science (WoS) (both SCOPUS and WoS were utilized to solidify the accuracy of the results), we found substantial documents within each literature stream (i.e. buying center, IT governance and social network analysis (SNA)).[2] However, no papers were found that included all search terms.[3] Consequently, although buying-center, IT-governance and social network research are well-established research streams in their own right, no studies seem to have explicitly examined the overlap between them. This is surprising, as IT-related purchasing is a common phenomenon in practice, and as IT governance and buying centers overlap substantially in such situations. Hence, current research arguably lags behind the empirical reality of IT procurement.

That is, while a research gap on its own does not necessarily warrant the need for research, a research gap combined with a widespread usage of IT governance in industrial firms (e.g. Gregory, Kaganer, Henfridsson, & Ruch, 2018; Joshi, Benitez, Huygh, Ruiz, & Haes, 2021; Loh & Venkatraman, 1992) and IT-related developments affecting buying centers (e.g. Osmonbekov & Johnston, 2018; Steward et al., 2019) arguably do highlight the need for conducting research that address the gap.

Put differently, industrial buyers' IT investments are in large part determined by their IT governance practices (Weill & Ross, 2004). Hence, one can arguably not obtain a sufficient understanding of buying centers in IT purchases without also incorporating contextual insights of their IT governance, as it determines and reflects the members and interaction patterns of the buying center. With the global IT market being estimated to having reached $9358.51 billion in 2022,[4] IT-related purchases are by no means a trivial niche-segment in the economy. IT-related research is also becoming increasingly pronounced in the literature stream on buying centers (e.g. Osmonbekov & Johnston, 2018; Steward et al., 2019), but without a conceptual link to IT governance, theorizing will likely overlook an essential explanatory mechanism. There is therefore a pressing real-world need for incorporating IT governance into the buying center literature stream. Moreover, both IT governance and buying centers are predicated upon social networks between individuals, making a social network perspective on the IT-governance – buying center interface particularly relevant. Especially, as the individual attitudes and behaviors of a buying center "cannot be fully understood without considering the structuring of organizational contexts in which people are embedded" and as the social network structuring imposed by IT governance "cannot be fully understood without considering the psychology of purposive individuals" (Tasselli, Kilduff, & Menges, 2015, p. 1361).

Hence, this study seeks to address this gap by answering the following research question: *How can IT governance and the buying center be combined in an integrative framework?* By so doing, I address the call from Cabanelas, Mora Cortez and Charterina (2023, p. 75), who based on their review of the buying center literature, calls for more research on the effects of the digital economy on the buying center, as technology "is crucial in an increasingly digitalized world, which calls for an in-depth analysis of its effects on decision-making and business models".

In so doing, the study contributes by: (i) cross-fertilizing the literature streams on the buying center, IT governance and social network analysis, and (ii) proposing an integrative framework (both typological and propositional) that provides a better understanding of the buying center from an IT-governance perspective. These contributions are important, as IT-related procurement comprises a substantial part of industrial-marketing investments, and as IT governance is an important context within which we can learn substantially more about industrial behavior, the related social networks and the buying center given different settings and contingencies. Hence, an aim of the study is to highlight the potential of the buying behavior/IT governance intersection and to motivate future work within the topic. Although it is limited in scope, the paper seeks to establish the foundations for such future work.

The paper proceeds as follows. First, we review the literature to provide an understanding of extant research focused on the buying center, IT governance, social network analyses (SNA) and their potential intersections. Thereafter, we present an integrative framework that synthesizes insights from research on the buying center and IT governance drawing upon SNA, and allows for the development of emerging propositions. Finally, implications and concluding remarks are provided.

2. Background

2.1. The buying center

Within the industrial-marketing and buying-behavior literature, the buying center is a seminal construct, with the foundations for the literature stream lying in the notable works of Robinson et al. (1967), Webster Jr and Wind (1972a, 1972b), Sheth (1973), Bonoma et al. (1977), and Johnston and Bonoma (1981). For instance, Robinson et al. (1967) propose that the buying process consists of several phases, such as: (1) recognize a need and a potential solution, (2) determine characteristics and quantity, (3) describe characteristics and quantity, (4) search for sources, (5) obtain and analyze proposals, (6) evaluate and select supplier, (7) select and order routine, and (8) gather performance feedback and evaluations (Johnston & Lewin, 1996). Moreover, Webster Jr and Wind (1972a) suggest a model of industrial buying behavior as an organizational decision-making process with four classes of variables (individual, social, organizational, and environmental), each composed of two broad categories of variables (task variables, which are directly related to the buying problem, and non-task variables, which are beyond the buying problem). Moreover, Webster Jr and Wind (1972a, p. 14) posit that:

> "Organizational buying behavior includes all activities of organizational members as they define a buying situation and identify, evaluate, and choose among alternative brands and suppliers. *The buying center* includes all members of the organization who are involved in that process. The roles involved are those of user, influencer, decider, buyer, and gatekeeper."

More specifically, Webster Jr and Wind (1972a) explain that the roles involved in the buying center include *users* (i.e., organizational members who use the purchased products or services); *buyers* (i.e., members with formal authority for contracting with suppliers); *influencers* (i.e., members who directly or indirectly influence the decision process); *deciders* (i.e., members with authority to choose among different buying outcomes); and *gatekeepers* (i.e., members who control

[2] Both WOS and SCOPUS are utilized as they both have advantages and disadvantages. Hence, the combination of information sources can arguably provide a better and more solid basis upon which to gain a more accurate overview.

[3] We only searched for the existence of the terms in abstracts, titles, and keywords. The search was conducted on SCOPUS and Web-of-Science (WoS) on March 11, 2022.

[4] https://www.thebusinessresearchcompany.com/report/information-technology-global-market-report.

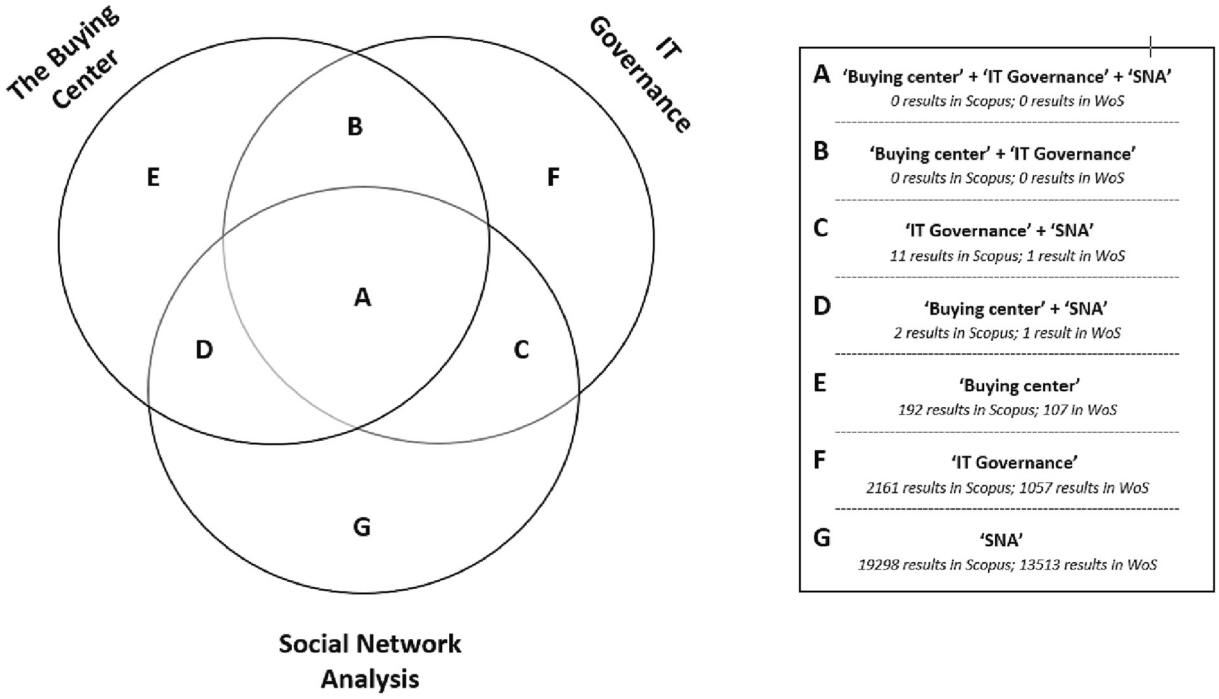


Fig. 1. Overview of the literature based on search terms.

the flow of information and materials into the buying center). Notably, each role may be occupied by several individuals and the same individual may occupy several roles (Webster Jr & Wind, 1972a, 1972b). Bonoma (1982) has added *initiator* to the buying center construct (i.e. the person who initiates the buying process). The "initiator" needs to be included as initiation potentially may affect how a problem is framed (how requirements for a solution are specified). Also, the possibility of actually realizing (initiating) a buy may be linked to the internal power structure and the power base of the "initiator".[5] Differences in the composition and dynamics of the buying center may also depend on industry settings: In a study of buying centers in bio-tech companies, Howard and Doyle (2006, p. 275) found that "the entire process is user centred with all the various functions orbiting around the user […] The four closest satellites represent the core decision-making unit with the second orbit, the business functions, representing the decision makers where final authority lies".

As such, the buying center suggests a structure and typology for different empirical contexts, allowing for a standardized taxonomy with room for empirical flexibility. Sheth (1973) similarly suggests an integrative model of industrial buying behavior, which emphasizes such aspects as the psychological world of decision makers, the expectations of decision makers, and the influence of product- and company-specific factors on the industrial buying process and resultant group behavior.

Johnston and Lewin (1996) identify Robinson et al. (1967), Webster Jr and Wind (1972a, 1972b), and Sheth (1973) as providing the conceptual foundation for organizational buying behavior. Their studies share two key aspects. First, they view organizational buying as a process. Second, their models emphasize environmental influences, organizational influences, and the characteristics of the individual participants (Johnston & Lewin, 1996). Johnston and Bonoma (1981) suggest that the dimensions of the buying center could be specified and measured, including *vertical involvement* (i.e., the number of levels in the organization's authority hierarchy that exert influence and communicate at the center), *lateral involvement* (i.e., the number of separate departments, divisions, or functional areas involved in purchasing decisions), *extensivity* (i.e., the total number of individuals involved in the purchase decision), *connectedness* (i.e., the degree to which the members of the buying center are linked to each other through direct communication), and *centrality* (i.e., the sum of the purchasing managers' purchase communications weighted by the total number of individuals in the buying center).

Early research recognized that progress in making the abstract concept a concrete management aid or a well-established literature stream was slow (e.g., Gronhaug & Bonoma, 1980; Wind, 1978), and although the construct subsequently became more adopted in marketing, the popularity of the construct appears to some to have lost momentum since the 1980s (with a few notable exceptions; e.g., Johnston & Lewin, 1996). This tendency is highlighted by Cabanelas et al. (2023) who categorize the buying center literature into three distinct phases: (i) establishing the conceptual bases from 1972 to 1989, (ii) consolidating the buying center construct from 1990 to 2008, and (iii) exploring new horizons from 2009 to 2021. Cabanelas et al. (2023) conclude that research on the buying center has been declining since the late 2000s.

Drawing from Robinson et al. (1967), Johnston and Bonoma (1981, p. 143) posit that "the concept of the buying center refers to all those members of an organization who become involved in the buying process for a particular product or service," and that while "the major buying roles (e.g., initiator, influencer) remain constant over all purchases, the participants can and do change over purchase types and categories." The buying center has similarly been defined as "all the organization members involved in reaching a purchase decision" (McWilliams et al., 1992, p. 44), which reflects the generally accepted view that the buying center comprises organizational members involved in determining a purchase outcome. However, the extent to which members should be involved and how much influence they should have remain unclear. Utilizing a micro contingency analysis, McWilliams et al. (1992) study the relationships among the purchase situation, the purchase phase, and the size of the buying center. They find that both the purchase situation and the purchase phase are related to buying-center size, and that the buying center for component parts consists of around four people, with a normal range of three to five individuals (McWilliams et al., 1992). One implication of this finding is that companies should invest in getting to know each member and each microsegment's offerings, and

[5] I am thankful to an anonymous reviewer for raising this point.

communicate accordingly. Recent years have seen a rise of emerging topics in buying center research, including the topics of (i) innovation and solutions, (ii) knowledge management and technology, and (iii) brands and relational processes (Chandler & Johnston, 2012). While topics (i) and (ii) are relevant from an IT perspective, they have predominantly dealt with technical, rather than governance, issues (Chandler & Johnston, 2012). That is, while much is known of buying centers in an industrial setting, we currently do not know much about how IT governance influence buying centers, albeit IT governance effects should be apparent in the buying center (Dadzie, Johnston, Dadzie, & Yoo, 1999; Osmonbekov & Johnston, 2018), as technology and social networks influence the buying center (Bill et al., 2020; Gustafson, Pomirleanu, Mariadoss, & Johnson, 2021; Prior, Karunarathne, Mudiyanselage, & Hussain, 2021; Steward et al., 2019).

2.2. IT governance

IT governance is a comparatively new, but increasingly popular, field of study in information systems research and agenda in practice. It has been suggested that "While the term *IT governance* did not become prominent in the literature until the second half of the 1990s (Sambamurthy & Zmud, 1999), studies of related concepts, such as computer systems management controls and control of information systems (Olson and Chervany, 1980), existed in the late 1960s and early 1970s." (Gregory et al., 2018, p. 1227). A substantial part of modern organizations' capital expenditure relates to IT investments, and therefore, there is a pressing need to gain significant benefits from these costs. Hence, "This leads to an increased focus on establishing effective processes and mechanisms to decide what IT resources and initiatives should be implemented and how and who should make and contribute to these decisions. As a result, IT governance emerges as a key enabler of IT and firm success and a major priority for senior IT and business executives" (Joshi et al., 2021, p. 1). According to Ross & Weill (2002), senior managers should not hand over IT governance exclusively to an IT department, but should at the very least provide answers to key questions such as *How much should we spend on IT? Which business processes should receive our IT dollars? Which IT capabilities should be firmwide? How good do our IT services need to be? What security and privacy risks will we accept? And Whom do we blame if an IT initiative fails?*

How companies govern IT activities has "evolved into an intricate mosaic of dispersed decision rights spanning organizations, entities, and institutions – often involving a multiplicity of stakeholders," but at the same time "limited attention has been directed to how organizations must govern the use of successfully implemented systems to realize their latent value" (Tiwana et al., 2013, p. 8). The effectiveness of IT governance can be assessed in terms of how well it supports IT delivery in relation to four organizational objectives: cost effectiveness, asset utilization, business growth, and business flexibility (Weill & Ross, 2004).

A variety of definitions exist for IT governance, but the common denominator tends to reflect the need for the interdependence of business management and IT (Webb, Pollard, & Ridley, 2006; see also Table 1 for an overview of this definition diversity): The ambition of the table is to (i) provide an overview of the definition diversity of IT governance, (ii) pinpoint important differences, and (iii) pinpoint important commonalities. In order to illustrate the variety of definitions, a few are provided here – albeit the following should not be seen as an exhaustive list. For instance, De Haes and Grembergen (2004) define IT governance as "the leadership and organizational structures, processes and relational mechanisms that ensure an organization's IT sustains and extends its strategy and objectives". Sambamurthy and Zmud (1999) posit that "IT governance arrangements refers to the patterns of authority for key IT activities in business firms, including IT infrastructure, IT use, and project management". It has also been defined as"the decision rights and accountability framework used to ensure the alignment of IT related activities with the organization's strategy and objectives." (Gregory et al., 2018, p. 1225) or "IT governance refers to the design and implementation of IT decision-making structures (i.e., who makes each IT decision, who has input to an IT decision) and involves the organizational structures and processes to ensure that the firm's IT supports and extends the firm's business strategy" (Joshi et al., 2021, p. 1). Peterson (2004) suggests that IT governance "describes the distribution of IT decision-making rights and responsibilities among different stakeholders in the enterprise, and defines the procedures and mechanisms for making and monitoring strategic IT decisions" and Webb et al. (2006) posit that "IT Governance is the strategic alignment of IT with the business such that maximum business value is achieved through the development and maintenance of effective IT control and accountability, performance management and risk management" (see Table 1 for selected definitions). While Table 1 illustrates definition diversity, there is arguably also an implicit consensus among the definitions that IT governance is concerned with allocating decision rights and assigning accountability for IT purchases and usage, despite slightly different wording in the definitions. Yet, most of the definitions also entail idiosyncratic elements developed in and for specific contexts, and therefore, they make it difficult to obtain theory synthesis on their own.

Table 1
Selected definitions of "IT governance".

Source	Definitions
Sambamurthy and Zmud (1999)	*"IT governance arrangements refers to the patterns of authority for key IT activities in business firms, including IT infrastructure, IT use, and project management"*
Peterson (2004)	*"IT governance describes the distribution of IT decision-making rights and responsibilities among different stakeholders in the enterprise, and defines the procedures and mechanisms for making and monitoring strategic IT decisions"*
De Haes and Grembergen (2004)	*"the leadership and organizational structures, processes and relational mechanisms that ensure an organization's IT sustains and extends its strategy and objectives"*
Weill and Ross (2004)	*"specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT"*
Gregory et al. (2018)	"*IT governance describes the decision rights and accountability framework used to ensure the alignment of IT related activities with the organization's strategy and objectives.*"
Joshi et al. (2021)	*"IT governance refers to the design and implementation of IT decision-making structures (*i.e., *who makes each IT decision, who has input to an IT decision) and involves the organizational structures and processes to ensure that the firm's IT supports and extends the firm's business strategy".*
Board Briefing on IT Governance, IT Governance Institute, 2001	*"IT governance is the responsibility of the Board of Directors and executive management. It is an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization's IT sustains and extends the organization's strategy and objectives"*
Webb et al. (2006)	*"IT Governance is the strategic alignment of IT with the business such that maximum business value is achieved through the development and maintenance of effective IT control and accountability, performance management and risk management"*

In order to address this problem, we adopt the following definition of IT governance from Weill and Ross (2004), where IT governance is defined as "specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT," which is a definition that "aims to capture the simplicity of IT governance – decision rights

and accountability – and its complexity – desirable behaviors that are different in every enterprise" (Weill & Ross, 2004, p. 8).[6] The choice of applying this definition rests on (i) the widespread usage of this definition in both IT governance research and practice, (ii) it provides a clearly delimited conceptualization while also having a clear operationalization of the construct, and importantly, (iii) the definition's emphasis on specifying decision rights and an accountability framework is arguably either implicitly or explicitly shared with competing definitions while also being sufficiently broad, and therefore, may be the (only) common ground available for synthesizing insights from the literature. However, we note that a variety of approaches to and tools for IT governance exist in practice (e.g., Larsen, Pedersen, & Andersen, 2006). While similar diversity is apparent in the extant research (e.g., Webb et al., 2006), Tiwana et al. (2013) seek to both broaden and direct the research conversation with the "IT Governance Cube," which encompasses three dimensions along which IT governance research can be positioned: (i) Who is governed? (ii) What is governed? and (iii) How is it governed?

As emphasized by Weill and Ross (2004), the governance of IT can be inspired by financial or corporate governance, where the CFO specifies who can make decisions and how, and oversees the investment portfolio, instead of signing every check or authorizing every payment. The same rationale should arguably be utilized in IT governance, where similar principles can be applied when specifying who can commit an organization to enter into a contract or partnership (Weill & Ross, 2004). Specifically, the governance of IT is comprised of a management framework stipulating who makes decisions concerning the commitment of resources within the IT domain and how. However, creating an IT governance framework can be difficult, as different functions may have different agendas and vested interests. Consequently, it can be difficult to build an encompassing framework that satisfies all these agendas. Yet, this not only illustrates the difficulty of IT governance, it also highlights the necessity for it, as decision rights and accountability frameworks can align the many fragmented agendas in an organization. For instance, Ritter and Pedersen (2020) suggest that a firm's digitization capability is essential for establishing a digital business model. However, a digitization capability encompasses data decisions, analytics decisions, and permission decisions. Data, analytics and permission decisions are typically "owned" by different functional units (e.g., IT, sales, marketing, legal, to name a few). Hence, it can be challenging to ensure that they collaborate in a single organization, although such collaboration is needed to create a strong digitization capability (Ritter & Pedersen, 2020).

Different governance archetypes exist within the IT domain. For instance, Sambamurthy and Zmud (1999) suggest that three primary modes of IT governance have become prevalent: centralized, decentralized and federal. However, Weill and Ross (2004) identify six archetypes: *business monarchy* (i.e., top managers make IT decisions); *IT monarchy* (i.e., IT specialists make IT decisions); *feudal* (i.e., business units make independent IT decisions); *federal* (i.e., a combination of corporate center and business units making IT decisions, with or without IT staff); *IT duopoly* (i.e., the IT group and one other group, such as top management or business-unit leaders, make IT decisions); and *anarchy* (i.e., isolated individuals or small groups make IT decisions). While these archetypes stipulate *who* and *how* IT decisions are made, *what* decisions should be made can be subdivided into several components: *IT principles*, which clarify the role of IT in the business; *IT architecture*, which explain integration and standardization requirements; *IT infrastructure*, which refers to selecting shared services that enable operations; *business application needs*, which involves clarifying the business need for IT applications; and *IT investments and prioritization*, which relates to choosing projects to fund and prioritizing spending (Weill & Ross, 2004). The flow of the decisions is progressive and the decisions overlap, as IT principles predicate IT architecture, which results in IT infrastructure, which forms the basis for business-application needs, all of which are formed by IT investments and prioritization. Moreover, both buying center and IT governance research highlight the social interactions of procurement of IT solutions, exemplifying the need for SNA methods.

2.3. Social network analysis

Social networks are prevalent in buying centers and IT governance. The basic foundation of social network analysis (SNA) can be explicated as follows: "Some social research has consistently focused on the social relationships linking individuals rather than on the individuals themselves. The kind of research that examines the links among the objects of study is called *structural* […] In social science, the structural approach that is based on the study of interaction among social actors is called social network analysis" (Freeman, 2004, p. 2). Here, the main presumption is that the patterning of these social ties carries important implications for the individuals, as illustrated in e.g. performance (Freeman, 2004). Hence, much of the interest in SNA can be attributed to "the appealing focus on social network analysis on *relationships* among social entities, and on the patterns and implications of these relationships" (Wasserman & Faust, 1994, p. 3).

When applying SNA to study organizational phenomena, a variety of network properties may be relevant: For instance, *transactional content* (what is exchanged by social actors?), *nature of the links* (strength and qualitative nature of the link between actors), and *structural characteristics* (overall relational pattern between actors of the system) (Tichy, Tushman, & Fombrun, 1979).

According to Scott (2011, p. 22): "The predominant approach in social network analysis until fairly recently has been the mathematical approach called graph theory […] Graph theory originated in the mathematical investigations undertaken by Euler and provides a method for studying networks ('graphs') of all kinds." Where actors are represented by points and their mutual relations by lines, graph theory provides theorems to analyze the formal properties of the resultant visualizations (Scott, 2011). Here, the outcomes are often so-called centrality measures which are utilized as proxies for influence and power (Burt, 2005). With the advent of technological developments, it is increasingly possible to conduct SNA on the basis of email or social media data (e.g. Gloor, 2017; Wen et al., 2020).

Put differently, SNA is based on a rich tradition from sociology and applies complex mathematics to uncover underlying structural patterns of social behavior. As such, it entails an important methodological tool for buying center research (e.g. Johnston & Bonoma, 1981) and uncovering the de facto power dynamics in IT governance (Tiwana et al., 2013; Weill & Ross, 2004). Beyond being a purely analytical tool, however, SNA similarly comprises an important commonality between the buying center construct and IT governance, as both presume human interaction to exert influence and power dynamics through evolving dynamics. While the field of SNA is substantial, the current study will emphasize the coordination (i.e., the communication and interactions) of the buying center members which is largely predicated upon the IT governance context they are embedded in. Hence, the study delimits SNA to the issue of intra-buying center coordination.

2.4. Combining the literature streams - methodological considerations

Although the constructs of the buying center, IT governance and SNA overlap in empirical settings of IT procurement, surprisingly little work

[6] IT governance is widely adopted in practice, yet it is not necessarily 'owned' by an IT department, but ideally by top management or the board who stipulate the decision rights and accountability framework for IT decisions. Hence, digital transformations where ownership is given to other functions than IT are fully congruent with IT governance which is merely a framework for stipulating who can make decisions in this IT domain and who is eventually held accountable.

has explicitly investigated this intersection. Yet, there is arguably a potential for studies on the buying center to learn from insights in the literature on IT governance and vice versa – drawing upon SNA as a methodological foundation. Hence, the intersection between the buying center, IT governance and SNA could not only shed light on the important and widespread empirical phenomenon of IT procurement in industrial markets, but also improve our understanding of the buying center and IT governance in general, thereby resulting in interdisciplinary cross-fertilization. Consequently, it is important for research on both the industrial buying center and IT governance to broaden to encompass their intersection.

Little, if any, research has explicitly drawn on theorizing from these conceptual domains. For instance, a review of the literature in *Industrial Marketing Management* shows that while a rich depository of information on the buying center is available, no studies explicitly focus on IT governance and, therefore, no studies examine the intersection of the buying center and IT governance. However, some studies of relevance for this intersection do exist. For instance, Ritter and Pedersen (2020) examine how digitization capabilities may form the basis for the digitalization of business models, and show that ownership of different activities associated with digitization capabilities may complicate matters. Hence, their paper addresses aspects of both the buying center in a digital context and IT governance without explicitly referring to such constructs.

Hence, the aim of the present paper is to contribute with a so-called conceptual integration or theory synthesis, seeking to i.e. achieve conceptual integration across multiple theories (Fig. 2). Such papers offer a new or enhanced view of a concept or phenomenon by "linking previously unconnected or incompatible pieces in a novel way" (Jaakkola, 2020, p. 21). As such, it resonates with MacInnis' (2011, p. 138) elaboration of a conceptual integration, i.e. "To see previously distinct pieces as similar, often in terms of a unified whole whose meaning is different from its constituent parts; to synthesize, amalgamate, or harmonize". In combination, the present paper utilizes IT governance as a method theory to contribute to the buying center literature as a domain theory (Jaakkola, 2020). SNA represents a methodological and analytical commonality between the two kinds of theories which allow for such and integration to take place (MacInnis, 2011). In what follows, these lines of thought are further developed into an integrative typological model (following the guidelines of Cornelissen (2017)), as typologies often represent the first step in integrative research. This typology is subsequently utilized as a basis for developing propositions, following the guidelines of Cornelissen (2017) and Ulaga, Kleinaltenkamp, Kashyap, and Eggert (2021). As such, the present study combines the typological and propositional style of theorizing (Cornelissen, 2017) in order to obtain conceptual integration (Jaakkola, 2020; MacInnis, 2011). The relevance of combining these modes of theorizing is well-known in industrial marketing (e.g. Lindgreen, Di Benedetto, Brodie, & Jaakkola, 2021). The outcome of this theorizing is a so-called mid-range theory which "provide conceptual frameworks to undertake empirical observation and models to guide managerial practices. Most of the theories currently used in business-to-business marketing research have these characteristics, so midrange theories characterize most conceptual frameworks" (Lindgreen et al., 2021, A3).

3. An integrative typology and emergent propositions

The present section builds on the preceding review to develop an integrative typology that specifies different combinations of IT governance and buying centers. This typology is utilized to define key archetypes, which are subsequently utilized as a basis to develop propositions.

3.1. Integrative typology

IT governance and buying center research can be integrated in a typology (Lindgreen et al., 2021), in order to obtain (i) a common language between the two fields, and (ii) a shared understanding of the core

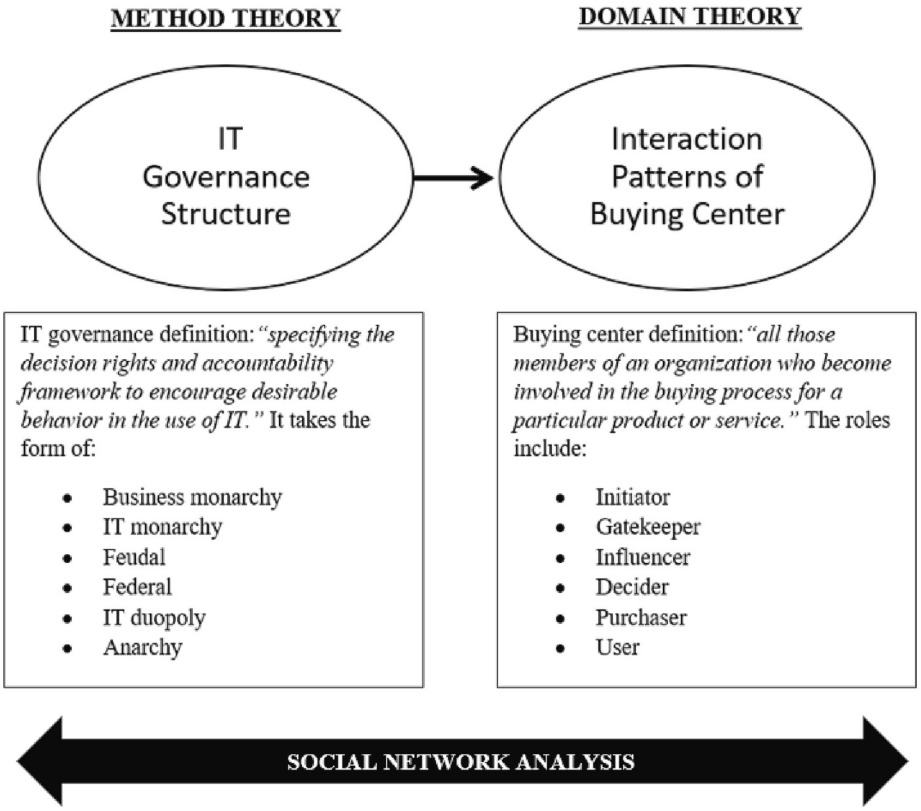


Fig. 2. Logic of the Paper's Argument.

phenomenon and unit-of-analysis. Such a typology can be seen in Fig. 4, which combines (i) the need for coordination between buying center members, predominantly determined by the interdependency between IT decisions, and (ii) actual coordination between buying center members, predominantly assessed by social network metrics. Coordination can be defined as "managing dependencies between activities" (Malone & Crowston, 1994, p. 90), making the management of interdependencies essential for the effectuation of strategies (Pedersen & Ritter, 2018), and therefore, coordination is an axiomatic cornerstone of both IT governance and buying centers. Put differently, coordination is the foundational basis upon which to base a conceptual integration.

It should be noted that social networks play an essential, yet slightly subtle, role in the typology. Social network theory is in many ways the "glue" that makes the conceptual integration of IT governance and buying center theory possible, as both phenomena (i) essentially describe the 'hidden' social structure underlying decisions (IT governance in relation to IT purchase and use, buying centers in relation to more general industrial purchases and use), (ii) use centrality measures and lines of communication in their conceptualizations, and importantly, (iii) both draw upon an assumption of the necessity of mutual coordination. Hence, both IT governance and buying centers are essentially social structures which can be described through nodes, centrality measures and interactions – and these specific forms of social networks are driven by, and reflect, coordination. For instance, Cabanelas et al. (2023) highlight that social network analysis is, and can be, very fruitful in the study of buying centers – and that information flows are similarly a valid object of study in buying centers. Therefore, social networks are a critical, but also relatively implicit, part of the typology and suggested conceptual integration (Fig. 3).

When the coordination dimensions described above are combined, four different scenarios emerge. IT governance deals with decision mandates and the need for coordinating decisions on IT related manners in order to secure the alignment needed to achieve organizational goals (Tiwana et al., 2013; Weill & Ross, 2004). Buying centers deal with how purchases are actually made and describe how interpersonal interaction is crucial in these purchases (Bill et al., 2020; Chandler & Johnston, 2012; Gustafson et al., 2021; Prior et al., 2021). Therefore, IT governance and buying center research can agree on a need for coordination – and for the need to minimize the gap between needed and actual

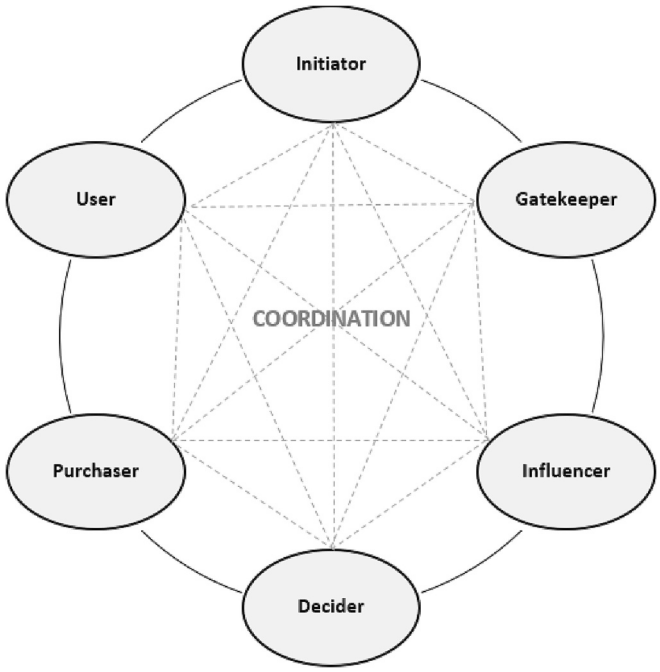


Fig. 3. Buying center coordination through a SNA perspective.

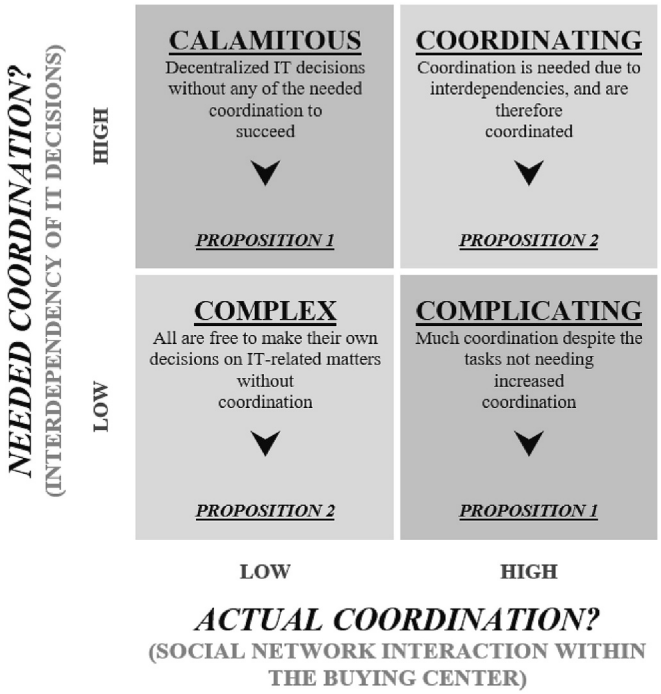


Fig. 4. The integrative IT governance/Buying center typology.

coordination. For instance, Peterson (2004) posits that coordination is an essential aim for IT governance, as conflicting strategic forces create a need for integration in order to achieve clarity in direction and unity of purpose, i.e. to coordinate. Moreover, Osmonbekov, Bello, and Gilliland (2002) suggest that coordination is also an essential part of buying centers, as interdependencies and interactions are embedded in the communications network of the buying center (Johnston & Bonoma, 1981). In continuation of this, the two literature streams complement each other, as IT governance is predominantly normative whereas buying center research is predominantly descriptive – captured in the two dimensions. Furthermore, both aspects entail core methodological tenets from SNA (Burt, 2005; Scott, 2011), as they both essentially deal with team composition and interaction patterns (for SNA in buying centers see e.g. Johnston & Bonoma, 1981; for SNA-related reasoning in IT governance see e.g. Weill & Ross, 2004). Hence, the typology flows directly from the base assumptions and axioms of the involved literature streams. Below I explicate each scenario in further detail.

Complex: When there is a low need for coordination, and similarly a low level of actual coordination, the resultant buying center/IT governance scenario is entitled as being complex. That is, individuals are empowered to make decisions on IT-related matters on their own, without the need to coordinate with each other. This mandate (i.e. IT governance) results in distributed buying centers where individuals often occupy several roles by themselves (e.g. user, decider, and purchaser). An example of such a scenario was seen in the recent lockdowns due to COVID-19, where many industrial firms empowered their workforce to make their own decisions in terms of buying the IT-equipment needed to perform their work outside the facilities of their workplace (e.g. Hartmann & Lussier, 2020).

Calamitous: When there is a high need for coordination, but a low level of actual coordination, the scenario is calamitous. That is, business units each make their own decisions on IT-related matters, but the subsequent result is siloed IT infrastructures to the detriment of organizational performance. This mandate results in a few decentralized and unconnected buying center members with little subsequent coordination. As mutual coordination within the buying center is often required in IT purchase situations, the end result can be calamitous, as the situation requires coordination that is not present in the buying center –

making information flows haphazard and decisions misaligned. Hence, resources will be misallocated, resulting in suboptimal purchases of the buying center. An example of this scenario was seen at USAA which was originally structured according to separate business areas such as insurance, banking and investment products – until they were eventually integrated around customer life event solutions (Mocker, Ross, & Hopkins, 2015).

Complicating: When there is a low need for coordination, but a high level of actual coordination, the scenario is entitled as being complicating. That is, members of the buying center communicate *too much* with each other on IT-related matters, resulting in inefficiency and suboptimal bureaucracy. An example of this scenario is seen in the well-documented concept of the 'mythical man month', describing Brooks (1975) famous observations at IBM that adding manpower to an already late IT project makes it even later, as each person added to the project will increase communication overhead and communication channels. Essentially, this is the same as adding people into the buying center – but the resultant increase in lines of communication will hinder any decisions from being made. Hence, more communication will take place than actual work or decisions made.

Coordinating: When there is a high need for coordination, and the actual level of coordination is similarly high, the scenario is coordinating. That is, centralized and decentralized members of the buying center communicate sufficiently in terms of IT-related matters, resulting in efficient operations. This is captured in the case of Intel transforming itself to become a microprocessor supplier through a longitudinal process of balancing centrally-induced visions with autonomous initiatives, and obtaining coordination between the two through a myriad of coordinating events (Burgelman & Grove, 1996).

In combination, the 2 × 2 matrix provides a typology which illustrates how different IT governance/buying center setups can result in varying interaction and coordination scenarios. These scenarios can, in turn, lead to different performance outcomes for the buying center.

3.2. Derived propositions

Drawing on the preceding review and conceptualization, two key tentative propositions can be made which can help guide further research. Propositions and hypotheses have much in common but are distinct phenomena. Put differently, "Whereas both propositions and hypotheses specify testable relationships, propositions are broader statements of relationships between constructs that cover novel theoretical ground. Hypotheses, on the other hand, specify a testable relationship between variables that does not require any new arguments as such" (Cornelissen, 2017, p.4).

The propositions have been crafted following the guidelines of Ulaga et al. (2021), entailing the steps of grounding, crafting, connecting and simplifying as well as adhering to the criteria of clarity, consistency, conciseness and contribution. Research propositions are "novel statements specifying relationships between concepts" and are as such critical for theory development which "may involve new concepts and theories, but it can also frequently focus on new ways of linking existing concepts through novel research propositions" (Ulaga et al., 2021, p. 396).

Drawing on the conceptualized typology (Fig. 3), it can be argued that the 'calamitous' and 'complicating' scenarios share the commonality that there is a mismatch between their level of actual coordination and what is needed by the IT-related purchase (Peterson, 2004). Hence, the governance mechanism and buying center interaction are misaligned, which will result in low performance of the buying center. This argument arguably finds support in the seminal work on interaction patterns of buying centers (e.g. Johnston & Bonoma, 1981), as the 'actual coordination' of the buying center is predicated upon (i) vertical and lateral involvement as well as extensivity, which will materialize itself in (ii) connectedness and centrality, which in turn, can be seen as proxies for actual coordination within the buying center. Moreover, it is difficult to envision that a buying center could excel in performance without mutual coordination, if the purchase situation requires it. Much of the actual coordination within the buying center in IT purchases is predicated upon IT governance which both influence group composition and interaction processes (e.g. Johnston & Bonoma, 1981). Ideally, IT governance would create group composition and interaction processes that would result in actual coordination reflecting the needed coordination in the purchase situation. However, that is not always the case, as plans and realized outcomes can differ substantially. The argument is illustrated by proposition 1, where coordination is seen as conceptually related to SNA metrics such as connectedness and centrality which have similarly been applied in buying center research (Johnston & Bonoma, 1981) and are in line with the need for coordination found in IT governance (Tiwana et al., 2013; Weill & Ross, 2004).

P1. The higher the mismatch between the need for coordination and actual coordination between buying center members, the lower the IT-related performance of the buying center.

The 'complex' and 'coordinating' scenarios are both very different and similar. They are different, as 'complex' suggests little mutual coordination and a fully empowered workforce, whereas 'coordinating' suggests very interdependent IT decisions and therefore a need for central coordination (Peterson, 2004). Yet, the two scenarios are similar in that they both convey a fit between the need for coordination and actual level of coordination, resulting in a high performance of the buying center. Such an interpretation is supported by the benefits by buying center members exhibiting information control (Prior et al., 2021). Moreover, it could be argued that IT governance essentially provides the organizational context determining group composition and interaction patterns (Johnston & Bonoma, 1981) for IT purchases, essentially making IT governance a key determinant for the resultant actual coordination within the buying center. Again, IT governance should ideally also reflect the fit between the actual coordination of the buying center and the coordination needed in the IT purchase situation. The argument is illustrated by proposition 2.

P2. The higher the match between the need for coordination and actual coordination between buying center members, the higher the IT-related performance of the buying center.

It should be emphasized that while certain technological developments such as AI and IOT may accelerate automation via autonomous agents (e.g. Brynjolfsson & McAfee, 2014; Osmonbekov & Johnston, 2018), and thereby may potentially change the composition and workflows of IT governance and buying centers, it is argued that such developments would still be consistent with the typology and the derived propositions: These new developments would arguably be in alignment with the typology, as the need for coordination would likely not disappear with emerging technologies. That is, autonomous agents still need to coordinate with each other (in 100% AI-driven scenarios) or teams of humans and AIs need to coordinate efforts (in scenarios with hybrid teams, also known as extended intelligence). Hence, IT governance and buying centers not only influence IT developments, IT developments may also impact IT governance and buying centers. Yet, it is argued that such developments will not change the logic of the typology nor derived propositions substantially. Moreover, such developments could similarly be captured using SNA methods.

4. Theoretical implications

A number of theoretical implications can be derived on the basis of the present work.

Integrating IT governance with buying centers in industrial marketing. Surprisingly, the intersection between the buying center and IT governance has been gravely overlooked in research. Even though IT comprises a substantial part of investments and procurement in industrial behavior, little—if any—work has been conducted using

both the buying center and IT governance as explicit theoretical frames. This is unfortunate, as IT governance has much to add to the buying-center construct and as the two concepts in combination can help explain an important and widespread empirical phenomenon. This paper has sought to address this gap in the extant research by developing an integrative model that synthesizes insights from both streams of research, and by utilizing the model to develop emerging propositions on how different forms of IT governance may provide important contingencies for the effectuation and materialization of the buying center. Bringing IT governance into buying center research also opens up a potential discussion of context in relation to buying centers – a theme which has arguably not been sufficiently covered by existing buying center research.[7]

Emphasizing coordination in the buying center. The present study has suggested the important role of buying center interaction in view of IT decisions. As many IT decisions have an interdependent nature, there is a need for interaction and coordination within the buying center. Hence, coordination is a largely overlooked but critical aspect of buying centers.

SNA as an analytical tool for understanding both IT governance and buying centers. While SNA has previously been applied as an analytical tool for both IT governance and buying centers respectively, the work conducted remains very limited in terms of fully exploiting the manyfold opportunities. Hence, there is ample room for further research, and the present paper provides a conceptualization and operationalization that can be of help in this task. For instance, email-data (i.e. who emails who, when, and how often in relation to a specific IT purchase) comprise a rich repository for applying SNA to better understanding and assessing buying centers and IT governance utilizing objective, large data sets from a natural setting (e.g. Gloor, 2017). Therefore, the typology and propositions presented in the present paper could be applied and tested for verisimilitude in this context.

5. Managerial implications

Similarly, a number of managerial implications can be derived from the conceptual integration described above. These are as follows.

The buying center must be understood through an IT governance lens in IT procurement cases. While governance aspects have indirectly or implicitly been present in much buying center work, a much stronger and more explicit focus should be given to it in IT procurement cases. That is, managers not only need to understand the buying center, but also the specific IT governance model of the industrial buyer, as IT governance influences the buying center and the subsequent behavior. In other words, it is arguably not possible to gain a sufficient understanding of buying centers in IT procurement without also detailing the related IT governance model.

Map the who, what, and how. It is essential for practitioners to map *who* is involved in the purchasing decision (the buying center), *what* is being governed (IT governance), and *how* the resultant buying process is in terms of mutual interaction (SNA). The who, what, how map not only synthesizes the literature streams in the present paper, it also provides a simple tool to provide an overview of a buying center while being in line with IT governance research (Tiwana et al., 2013).

Understand individual buying center members and their organizational context. Essentially, the main message of the present paper is that not only should suppliers obtain a good understanding of who the individual members are in the buying center (Howard & Doyle, 2006), but also to understand the context within which they act that goes beyond the buying center (Tiwana et al., 2013; Weill & Ross, 2004). Doing so, will arguably provide a better understanding of not only the buying center but also the behavior and motivations of the individual members that comprise it.

Understand that coordination is key. As argued in the present study, both IT governance and buying centers deal with coordination, i.e. the management of dependencies (Malone & Crowston, 1994). As such, coordination capabilities are needed to sufficiently manage buying centers and IT governance, as well as their mutual overlap. This requires a deep understanding of the different kinds of dependencies and the mechanisms through which they can be managed, i.e. coordination.

The above provide the contours for improving practice in IT procurement. While general in nature, these first steps arguably provide the basis upon which practice can be improved in IT procurement.

6. Concluding remarks and further research

Research into the buying center is arguably one of the prime contributions of the industrial marketing field. Yet, this line of research needs to be updated to an ever-evolving environmental context. In the absence of such new work in this important domain and new conceptualizations of the buying center in relation to evolving environmental conditions, the full value of the buying center cannot be leveraged in the future.

While this paper merely represents a first step towards reinvigorating research on the buying center and cross-fertilizing research from the buying center and IT governance, we hope that it will provide the motivation needed to move the literature stream forward in a new and relevant direction in which IT governance is fully integrated into the buying center domain.

While the presented propositions provide apparent directions for further research, there are also other promising directions. For instance, with the acceleration of machine learning and the advent of intelligent agents, much of the daily operations of any business (including IT governance and the buying center) will likely become more automated, as IT is shifting from being an enabler of information to a more active participant in organizational life due to autonomous capacities.[8] Here, it will be interesting to study how this shift impacts IT governance and the buying center: Will IT governance itself be 'botsourced' to machines – or will IT governance rather function as a 'human watchdog' that monitors, audits and questions the ethics and lawfulness of machine learning and AI?[9] The same question can be turned towards the buying center: Will autonomous agents or AI occupy several or all of the roles in the buying center moving forward? While answers to these questions are likely speculative currently, it is important that future research draws attention to these lines of inquiry. Hence, the interface between IT governance and the buying center may act as a starting point for considering such developments. Moreover, further research can study specifically how IT governance impacts each of the roles of the buying center. For instance, are deciders, gatekeepers, influencers etc. undergoing changes due to IT governance models? In a related vein, one of the key considerations of IT governance is 'who do we blame if an IT initiative fails?' (Ross and Weill, 2002). This question can also be adapted to the buying center domain, by asking 'who in the buying center do we blame if an IT purchase fails?' While such a question is relevant in practice, it is largely uncovered in research, and thus, we are in need of empirical studies that can uncover such issues. While these aspects are important and relevant, we are only at the beginning of being able to answering them in the industrial marketing field.

Data availability

No data was used for the research described in the article.

[7] I am thankful to an anonymous reviewer for raising this point – and it can be expanded to also include different types of buying situations.

[8] I am thankful to an anonymous reviewer for raising this point.

[9] See The Jobs That Artificial Intelligence Will Create (mit.edu) for examples.

References

Bill, F., Feurer, S., & Klarmann, M. (2020). Salesperson social media use in business-to-business relationships: An empirical test of an integrative framework linking antecedents and consequences. *Journal of the Academy of Marketing Science, 48*, 734–752.

Bonoma, T. V. (1982). Major sales: Who really does the buying? *Harvard Business Review, 60*(May/June), 111–119.

Bonoma, T. V., Zaltman, G., & Johnston, W. J. (1977). *Industrial buying behavior*. Marketing Science Institute.

Bristor, J. H., & Ryan, M. J. (1987). The buying center is dead, long live the buying center. In M. Wallendorf, & P. Anderson (Eds.), *Vol. 14. NA – Advances in consumer research*. Provo, UT: Association for consumer research.

Brooks, F. P. (1975). *The mythical man-month: Essays on software engineering*.

Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies* (1st ed.). New York: W.W. Norton & Company.

Burgelman, R. A., & Grove, A. S. (1996). Strategic dissonance. *California Management Review, 38*, 8–28.

Burt, R. S. (2005). *Brokerage and closure: An introduction to social capital*. New York: Oxford University Press.

Cabanelas, P., Mora Cortez, R., & Charterina, J. (2023). The buying center concept as a milestone in industrial marketing: Review and research agenda. *Industrial Marketing Management, 108*, 65–78.

Chandler, J. D., & Johnston, W. (2012). The organizational buying center as a framework for emergent topics in business-to-business marketing. In M. S. Glynn, & A. G. Woodside (Eds.), *Advances in business marketing and purchasing, business-to-business marketing management: Strategies, cases and solutions*. Bingley: Emerald.

Cornelissen, J. (2017). Editor's comments: Developing propositions, a process model, or a typology? Addressing the challenges of writing theory without a boilerplate. *Academy of Management Review, 42*(1), 1–9.

Dadzie, K. Q., Johnston, W. J., Dadzie, E. W., & Yoo, B. (1999). Influence in the organizational buying center and logistics automation technology adoption. *Journal of Business & Industrial Marketing, 14*(5/6), 433–444.

De Haes, S., & Grembergen, W. V. (2004). IT governance and its mechanisms. *Information Systems Control Journal, 1*.

Freeman, L. C. (2004). *The development of social network analysis: A study in the sociology of science*. Vancouver, BC, Canada: Empirical Press.

Gloor, P. (2017). *Sociometrics and human relationships: Analyzing social networks to manage brands, predict trends, and improve organizational performance*. Bingley UK: Emeral Publishing Ltd.

Gregory, R., Kaganer, E., Henfridsson, O., & Ruch, T. (2018). It consumerization and the transformation of it governance. *MIS Quarterly: Management Information Systems, 42*, 1225–1253. https://doi.org/10.25300/MISQ/2018/13703

Gronhaug, K., & Bonoma, T. V. (1980). Industrial-organizational buying: A derived demand perspective. In C. Lamb, & P. Dunne (Eds.), *Theoretical developments in marketing*. Chicago: American Marketing Association.

Gustafson, B. M., Pomirleanu, N., Mariadoss, B. J., & Johnson, J. L. (2021). The social buyer: A framework for the dynamic role of social media in organizational buying. *Journal of Business Research, 125*, 806–814.

Hartmann, N. N., & Lussier, B. (2020). Managing the sales force through the unexpected exogenous COVID-19 crisis. *Industrial Marketing Management, 88*, 101–111.

Howard, P., & Doyle, D. (2006). An examination of buying centres in Irish biotechnology companies and its marketing implications. *The Journal of Business and Industrial Marketing, 21*(5), 266–280.

Jaakkola, E. (2020). Designing conceptual articles: Four approaches. *AMS Review, 10*, 18–26. https://doi.org/10.1007/s13162-020-00161-0

Johnston, W. J., & Bonoma, T. V. (1981). The buying center: Structure and interaction patterns. *Journal of Marketing, 45*(3), 143–156.

Johnston, W. J., & Lewin, J. E. (1996). Organizational buying behavior: Toward an integrative framework. *Journal of Business Research, 35*(1), 1–15.

Joshi, A., Benitez, J., Huygh, T., Ruiz, L., & Haes, S. (2021). Impact of IT governance process capability on business performance: Theory and empirical evidence. *Decision Support Systems, 113668*. https://doi.org/10.1016/j.dss.2021.113668

Larsen, M. H., Pedersen, M. K., & Andersen, K. V. (2006). IT governance: Reviewing 17 IT governance tools and analysing the case of Novozymes A/S. In *Proceedings of the 39th Hawaii international conference on system sciences*.

Lindgreen, A., Di Benedetto, A., Brodie, R. J., & Jaakkola, E. (2021). How to develop great conceptual frameworks for business-to-business marketing. *Industrial Marketing Management, 94*, A2–A10.

Loh, L., & Venkatraman, N. (1992). Determinants of information technology outsourcing: A cross-sectional analysis. *Journal of Management Information Systems, 9*(1), 7–24.

MacInnis, D. J. (2011). A framework for conceptual contributions in marketing. *Journal of Marketing, 75*, 136–154.

Malone, T. W., & Crowston, K. (1994). The interdisciplinary study of coordination. *Computing Surveys, 26*(1), 87–119.

McWilliams, R. D., Naumann, E., & Scott, S. (1992). Determining Buying Center Size. *Industrial Marketing Management, 21*(1), 43–49.

Mocker, M., Ross, J., & Hopkins, C. (2015). How USAA architected its business for life event integration. *MIS Quarterly Executive, 14*(4), 137–150.

Olson, M. H., & Chervany, N. L. (1980). The Relationship between Organizational Characteristics and the Structure of the Information Services Function. *MIS Quarterly, 4*(2), 57–68.

Osmonbekov, T., Bello, D. C., & Gilliland, D. I. (2002). Adoption of electronic commerce tools in business procurement: Enhanced buying center structure and processes. *Journal of Business & Industrial Marketing, 17*(2/3), 151–166.

Osmonbekov, T., & Johnston, W. J. (2018). Adoption of the internet of things technologies in business procurement: Impact on organizational buying behavior. *Journal of Business & Industrial Marketing, 33*(6), 781–791.

Otte, E., & Rousseau, R. (2002). Social network analysis: A powerful strategy, also for the information sciences. *Journal of Information Science, 28*(6), 441–453.

Pedersen, C. L., & Ritter, T. (2018). The four executive challenges of project-based strategy. *Strategy & Leadership, 46*(6), 44–49.

Peterson, R. (2004). *Crafting information technology governance. Fall* pp. 7–22). Information Systems Management.

Prior, D. D., Karunarathne, L., Mudiyanselage, H., & Hussain, O. K. (2021). Buying Centre members' information control and complex organizational buying. *Journal of Business & Industrial Marketing, 36*(1), 125–136.

Raghavan, S. R., Jayasimha, K. R., & Nargundkar, R. V. (2020). Impact of software as a service (SaaS) on software acquisition process. *The Journal of Business and Industrial Marketing, 35*(4), 757–770.

Ritter, T., & Pedersen, C. L. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management, 86*, 180–190.

Robinson, P. J., Faris, C. W., & Wind, Y. (1967). *Industrial buying and creative marketing*. Allyn and Bacon.

Ross, J. W., & Weill, P. (2002). Six IT Decisions Your IT People Shouldn't Make. *Harvard Business Review*.

Sambamurthy, V., & Zmud, R. W. (1999). Arrangements for information technology governance: A theory of multiple contingencies. *MIS Quarterly, 23*(2), 261–290.

Scott, J. (2011). Social network analysis: Developments, advances, and prospects. *SOCNET, 1*, 21–26. https://doi.org/10.1007/s13278-010-0012-6

Sheth, J. N. (1973). A model of industrial buyer behavior. *Journal of Marketing, 37*(4), 50–56.

Sheth, J. N., & Sharma, A. (1997). Supplier relationships: Emerging issues and challenges. *Industrial Marketing Management, 26*, 91–100.

Steward, M. D., Narus, J. A., Roehm, M. L., & Ritz, W. (2019). From transactions to journeys and beyond: The evolution of B2B buying process modeling. *Industrial Marketing Management, 83*, 288–300.

Tasselli, S., Kilduff, M., & Menges, J. I. (2015). The microfoundations of organizational social networks: A review and an agenda for future research. *Journal of Management, 41*(5), 1361–1387. https://doi.org/10.1177/0149206315573996

Tichy, N. M., Tushman, M. L., & Fombrun, C. (1979). Social network analysis for organizations. *The Academy of Management Review, 4*(4), 507–519.

Tiwana, A., Konsynski, B., & Venkatraman, N. (2013). Special issue: Information technology and organizational governance: The IT governance cube. *Journal of Management Information Systems, 30*(3), 7-1.

Ulaga, W., Kleinaltenkamp, M., Kashyap, V., & Eggert, A. (2021). Advancing marketing theory and practice: Guidelines for crafting research propositions. *AMS Review, 11*, 395–406.

Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge: Cambridge University Press.

Webb, P., Pollard, C., & Ridley, G. (2006). Attempting to define IT governance: Wisdom or folly?. In *Proceedings of the 39th Hawaii international conference on system sciences*.

Webster, F. E., Jr., & Wind, Y. (1972a). A general model for understanding organizational buying behavior. *Journal of Marketing, 36*(2), 12–19.

Webster, F. E., Jr., & Wind, Y. (1972b). *Organizational buying behavior*. Prentice Hall.

Weill, P., & Ross, J. W. (2004). *IT-governance: How top performers manage IT decision rights for superior results*. Boston, MA: Harvard Business Press.

Wen, Q., Gloor, P. A., Fronzetti Colladon, A., Tickoo, P., & Joshi, T. (2020). Finding top performers through email patterns analysis. *Journal of Information Science, 46*(4), 508–527.

Wind, Y. (1978). Organizational buying center: A research agenda. In G. Zaltman, & T. V. Bonoma (Eds.), *Organizational buying behavior*. Chicago: American Marketing Association.