The Relationship Between Digital Solution Selling and Value-Based Selling: A Motivation-Opportunity-Ability (MOA) Perspective

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The Relationship Between Digital Solution Selling and Value-Based Selling: A Motivation-Opportunity-Ability (MOA) Perspective

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Abstract

Purpose
Value-Based Selling (VBS) is increasingly a key success factor in B2B settings, but its relationship with Digital Solutions Selling (DSS) has not been explored. We develop a Motivation-Opportunity-Ability (MOA)-based model that shows how an individual salesperson’s task-specific motivation to implement DSS affects personal capabilities to engage in DSS-related internal coordination, customer networking, and ultimately VBS behavior. We also account for the supervisor’s DSS-focused behavioral control as the Opportunity variable, potentially influencing all other variables in our framework.

Design/methodology/ approach
We test our model and hypotheses using data of 178 salespeople from a B2B company growing its digital solutions business. Path modeling and SmartPLS software are used to estimate the model.

Findings
The results demonstrate the key importance of DSS implementation motivation to implement VBS. The findings emphasize the mediating role of salespeople’s ability to collaborate with colleagues and engage in customer networking to configure the right idiosyncratic digital solutions and demonstrate these solutions’ economic value. Supervisors have a fundamental role in directly and indirectly stimulating DSS motivation, DSS-related customer networking ability, and VBS.

Originality
Our research addresses the communalities and differences between Solutions Selling (SS) and VBS, suggesting a causal relationship. While prior research has analyzed solutions and value mainly as corporate strategies at the organizational level the current study considers implementation at the individual salesperson level. Our study focuses on digital solutions, which are more uncertain and complex to sell than traditional solutions.

Keywords:
Digital solutions, solution selling, value-based selling, supervisor control, MOA
INTRODUCTION

Two major strategic trends characterize the world of sales organizations today: the shift from selling products to selling solutions (hereinafter, SS) (Tuli, Kohli & Bharadwaj, 2007) and the impact of digital technologies on salespeople’s job (Guenzi & Habel, 2020). At the intersection of these two phenomena, selling digital solutions to customers represents a potentially attractive opportunity to create value and gain a competitive advantage (Singh et al., 2019). However, many firms struggle to sell these solutions profitably. “Assuming that digitalization will drive profitable growth can be misleading, as many firms have achieved poor results” (Bjökdahl, 2020, p.29). Even those that invested handsomely in SS often find it hard to achieve positive returns (Grove, Sellers, Ettenson, & Knowles 2018). Both the literature on digital transformation in sales (e.g., Guenzi & Nijssen, 2021) and solution selling (e.g., Johnson and Sohi, 2017) have highlighted the critical role of salespeople’s motivation to implement the changes implied by such phenomena. However, the way motivation affects digital SS (hereinafter DSS) implementation and how much motivation can be affected by companies (and more specifically by supervisors’ sales force control) have not been investigated so far.

SS is a broadly adopted strategy that includes four relational processes: customer requirement definition, customization and integration of goods and/or services, deployment, and post-deployment support (Panagopoulos et al., 2017; Tuli et al., 2007). These stages help sell a solution that fits customers’ needs but do not automatically secure customers’ extra profits from their purchases and/or contracts (Adamson, Dixon & Toman, 2012). In fact, the actual contribution of solutions to value creation for customers is unclear, subjective, and uncertain (MacDonald et al., 2016). Consequently, selling contracts for these solutions can be challenging (Liinama et al., 2016).

DSS refers to SS for digital offers (Fu et al., 2010). We argue that what we know about SS holds true for DSS (e.g., the fundamental relational processes that apply to SS in general, the difficulty for salespeople in turning solutions into actual value creation for the customer), but that
key challenges are amplified because digital technologies fuel customer risk perceptions and increase the importance for sales to demonstrate the digital solution’s value to the customer. It makes the link with value-based selling (hereinafter VBS) more important. VBS refers to a salesperson’s behavior to advance customer value-in-use jointly with the customer by demonstrating the provider’s contribution to customer business profitability in monetary terms (Terho et al., 2012). To understand this challenge, we discuss and compare traditional and digital solutions.

Solutions are conceived as “products and services combined into innovative offerings” (Shankar, Berry, & Dotzel 2009, p. 95) and promise to provide differentiation where the core product is becoming commoditized. Digital solutions seamlessly combine software and hardware and rely on digital technology and connectivity (e.g., IoT) (Wang, 2021). Often reconceptualizing and integrating functionalities to help customers better manage their business, digital solutions profoundly impact customers (Porter & Heppelmann, 2014). Because digital solutions are complex, it is often challenging to explain their value implications (Liinama et al., 2016). They may be contingent upon difficult-to-predict evolutionary technological trajectories and involve high financial and other risks. Thus, successful conversion rates greatly depend on salespeople’s adoption of VBS as part of the sales process.

Despite the relevance of the phenomenon and prior research on SS and VBS (to be discussed later in this work), the relationship between SS and VBS is under-researched and unclear. Our understanding of the role of frontline salespeople in implementing a DSS strategy is also limited (Cenamor, Rönberg, Sjödin, & Parida, 2017). In particular, the specific motivation and capabilities required for the successful implementation of DSS, as well as their relationship with VBS, are very much worth investigating (Salonen, Terho, Böhm, Virtanen, & Rajala, 2021; Terho, Eggert, Ulaga, Haas, & Böhm, 2017; Tuli et al. 2007) as this can help firms make their digital endeavours profitable.
Drawing on Motivation-Opportunity-Ability (MOA) theory (Blumberg & Pringle, 1982), the objective of our study is to develop a comprehensive and theoretically sound conceptual framework investigating both organizational (i.e., perceived supervisor control) and individual (i.e., motivation and abilities) factors affecting salespeople's VBS behaviors for digital solutions. MOA theory is particularly suited to predict work-related behaviors (e.g., Siemsen, Roth, & Balasubramanian, 2008) and has been widely used to investigate the drivers of several behaviors of salespeople (Johnson & Friend, 2015; Nijssen, Guenzi, & van der Borgh, 2017; Sabnis, Chatterjee, Grewal, & Lilien, 2013). We propose that salespeople’s motivation and ability to sell digital solutions foster VBS, and benefit from their supervisor’s controls focusing on DSS. More specifically, we argue that salespeople can turn a digital solution’s potential to create value into actual VBS when they leverage on internal coordination in their company and external networking with multiple stakeholders in the customer organization.

Our study contributes to the literature in several important ways. First, we contribute to extant research on the impact of digital solutions on sales organizations (Guenzi & Habel, 2020). While the literature so far has tried to answer the question “what makes salespeople adopt digital technologies (e.g. social media, CRM, etc.) to sell their traditional offerings?”, our study addresses the question “what drives salespeople’s selling of digital solutions, and how does DSS affect VBS?”. By studying SS and VBS in a firm introducing new, advanced digital services, we add to the literature on selling digital solutions.

Second, we begin bridging the literature on SS and VBS. Prior research has considered these concepts as related but different. Studies have remained exploratory and conceptual (e.g., Keranen, Salonen, & Terho, 2021; Storbacka, 2011) without systematically testing their relationship, and only in a few cases investigated this phenomenon at the level of the individual salesperson. Table 1 summarizes prior research on SS and VBS at the individual salesperson level and shows how we add to this body of research. In short, we interpret and analyze (digital, in our case) SS as a precondition or precursor of VBS and hypothesize that the impact of the former on the latter is
mediated by two important abilities of salespeople, i.e., internal coordination and customer
networking (Terho et al. 2017). The former ensures proper deployment of the digital solution; the
latter helps identify all relevant stakeholders that may benefit from it, prepare the customer for the
transition to the new situation, and ensure the customer will fully enjoy the digital solution’s value-in-use. Because digital solutions are complex, they require extensive DSS-related internal
coordination and external networking (Vargo, Akakab & Wieland, 2020) and a task-specific
motivation of salespeople to sell digital solutions.

Third, in addition to individual-level drivers of VBS (i.e., DSS-related implementation
Motivation and Ability of salespeople), we also account for perceived supervisor DSS-related
behavioral control as a predictor of a smooth DSS and VBS implementation process. In fact, control
is an important component of digital capability (Wielgos, Homburg & Kuehnl, 2021). It helps
ensure proper development of all required skills and behaviors of the sales force through the careful
provision of direction, monitoring of capabilities and activities, and progression of the
implementation process by offering feedback and taking corrective measures if required. From a
motivation perspective, perceived supervisor behavioral control acts as an opportunity for the
salesperson to develop SS-related abilities and engage in VBS. Our attention to perceived
supervisor behavioral control addresses calls in the literature for studying how management can
actively help salespeople implement SS and stimulate VBS practices to achieve superior sales
performance (Terho et al., 2017; Liinamaa et al., 2016).

The paper is organized as follows. First, we discuss the theoretical background focusing on
the relationship between SS and VBS, the specific context of selling digital solutions, and
emphasize the vital role of motivation in pursuing DSS strategy. Next, we introduce our framework
and develop our hypotheses. We elaborate on the methods of our empirical study and then present
our results. Finally, we discuss theoretical and managerial implications, expose the limitations of
our research, and provide guidelines for future research on the topic.
THEORETICAL BACKGROUND

SS and VBS

Despite the rapid growth of studies on SS and VBS the extant literature is almost completely silent about the causal relationship between SS and VBS. This is true for the few studies focusing at the organizational level (e.g. Storbacka, 2011; MacDonald et al., 2016; Salonen et al., 2021) and even truer at the individual level, since this phenomenon has never been investigated at the individual salesperson level, which is the focus of our analysis (see Table 1).

Comparing SS with VBS systematically, we note several commonalities and differences. First, they are both rooted in well-established concepts in the personal selling literature, like Customer-Oriented Selling (Saxe & Weitz, 1982), Adaptive Selling (AS) (Spiro & Weitz, 1990), Consultative Selling (COS) (Liu & Leach, 2001), Services Selling (Crosby, Evans & Cowles, 1990), Innovation Selling (Atuahene-Gima 1997) and Relationship Selling (Weitz & Bradford, 1999). They also strongly refer to the Service-Dominant Logic (Vargo & Lusch, 2004). Second, both SS and VBS argue that sellers increasingly can and should try to create a competitive advantage by (a) acting in the customers’ best interest through an in-depth understanding of their individual needs (as argued in particular by the COS literature) (b) crafting, communicating and delivering a customized offering (as highlighted in particular by studies on AS) (c) usually building on an innovative, complex combination of products and services (as pinpointed especially by research on innovation selling and services selling), (d) proactively helping and offering support even beyond a simple response to customers’ explicit requests (as emphasized in particular by the literature on consultative selling), and (e) most of the times using a long-term oriented perspective involving multiple stakeholders both within the selling and the buying organizations (as argued especially by the studies on relationship selling).
Differences also exist. Although SS aims to create value for the customer, its contribution to customers’ bottom line is not an inherent part of the definition nor of its measurement (e.g., Panagopulos et al., 2017). The explanation is that not all solutions create economic value for a customer (Adamson, Dixon & Toman, 2012). A solution may be beneficial but too expensive or have a too long break-even period. In contrast, VBS focuses on solution value and contribution to a customer’s bottom line (Terho et al., 2017). Thus, VBS looks at a salesperson’s identification, creation, communication, and delivery of the financial benefit of a solution to a customer. It typically gives rise to a long-term relationship where post-deployment support, after-sales assistance, upselling and cross-selling are also frequently involved. Thus, a VBS approach should stem from the SS-endeavor to help ensure the overall solution creates value, leading to extra competitive advantage and additional customer rents.

**Digital solutions and VBS**

Digital solutions have the potential to offer B2B customers substantial value through seamless integration of hard- and software, sometimes reinventing and extending the functionality of traditional products (Wang, 2021). They come in many forms (Kohtamäki et al., 2019). Lely’s farm solutions, for example, provide farmers efficient ways to manage their business processes by combining the data from sensors installed on milk and feeding robots and augmenting it with the cows' personal (fit-bit) data (temperature, movements etc.). Similarly, in addition to the company’s core products (i.e. power tools for anchoring, fastening, drilling, etc.) Hilti’s On!Track, GPS-based asset management solution helps construction firms to track and manage their tools across multiple job sites preventing common problems of expired certifications, lapsed maintenance, broken tools, and missing/stolen assets.

However, seamless hardware and software integration in a solution is difficult to achieve and generates significant perceived risk for target customers (Paluch and Wunderlich 2016). Due to digital technology, adding features has become cheap, fueling the danger of adding features beyond
what customers need and can absorb (Elliott, 2007). Customers are often overwhelmed. Therefore, salespeople’s new task is to help customers survive in the digital age and effectively deal with the complex decisions associated with buying digital solutions. Many stakeholders and types of risk are involved. Technology illiteracy, functional risk, and fear of early obsolescence, and privacy can seriously hinder customer adoption (Paluch and Wunderlich, 2016). The trade-off between the digital solution’s extensive benefits and mental and monetary costs puts extra pressure on the salesperson to move the customer through the sales funnel. Implementing a strategy of DSS requires any salesperson to have a strong task-specific motivation to develop the abilities to engage in extensive coordination with multiple functions internally and customer networking externally. The former will help ensure the correct idiosyncratic value is created and delivered. The latter will help identify relevant customer stakeholders and make necessary arrangements to help the customer organization unlearn old and adopt new routines to enjoy the digital solution’s benefits (Pagani & Pardo, 2017).

The MOA perspective to investigate the DSS-related predictors of VBS

Motivation to implement DSS. Motivation refers to an individual’s desire and willingness to engage in a behavior and is well-espoused as a predictor of behavior and performance in the sales domain (Ingram et al., 1989). Salespeople must take on new challenges in general and develop the skills required to implement a new sales strategy in particular (Johnson & Sohi, 2017). Because digital solutions involve a form of innovation, a significant effort to implement DSS will be necessary. Since digital solutions are complex and uncertain, selling them requires different capabilities than traditional product selling (Salonen et al., 2021; Ulaga & Kohli, 2018). A salesperson selling digital solutions should be able to develop customized bundles of products and services and convince customers of their superior performance and contribution to profit. These extensive investments in new resources are required upfront and without any guarantee of sales success and are thus accompanied by a high level of perceived risk.
In keeping with Johnson and Sohi (2017), and based on Sääksjärvi and Samiee (2011) and Schmitz (2013), we focus on DSS implementation motivation defined as the extent to which a salesperson has the desire or willingness to act on strategies associated with selling digital solutions. Such task-specific motivation is vital to ensure plans get embraced and for DSS strategy to work at the individual salesperson-level. It should help the salesforce not just sell the digital solution, and thus engage in DSS, but also learn to sell the accompanying contract to the customer (Liinama et al. 2016), and thus engage in VBS.

Opportunity: DSS-focused behavioral control. Managers can use sales force control systems to stimulate DSS and VBS behaviors (Khusainova et al., 2018). Sales force control systems are the formalized policies, rules, and procedures employed by sales managers to influence and direct salespeople’s motivation, ability, and behaviors for desired sales outcomes (Anderson & Oliver, 1987). Extant research has posited connections between sales force control systems and various salesperson behaviors, arguing that behavior-based control should be more appropriate than an outcome-focused, laissez-faire approach when salespeople are expected to perform specific and demanding activities like, for example, smart selling (Baldauf et al., 2005). Moreover, Wielgos et al. (2021) recently found that digital control is a key component of an organization’s digital business capability. Digital control refers to the degree to which a firm specifies, monitors, and evaluates formal procedures and systems that use information to maintain or alter patterns in organizational activity to appropriate new forms of value through combinations of digital technologies. In keeping with this perspective, we argue that behavioral control should be preferred when companies want to stimulate the challenging adoption of DSS and implement VBS. DSS-focused behavioral control refers to supervisors’ control of both the activities and capabilities subordinates should adopt and possess to implement DSS and VBS (Challagalla & Shervani, 1996). Supervisors practicing activity control require salespeople to perform a prescribed combination of DSS activities deemed necessary for achieving desired performance levels, monitor and reward the
actual adoption of such activities, or suggest corrective actions when needed. Supervisors practicing
capability control set individualized goals for the level of abilities salespeople must possess to sell
digital solutions. They will coach their salespeople if necessary and reward them based on their
demonstrated levels of skills and abilities.

**Ability: DSS-related Customer networking and Internal coordination.** Like in SS in general, in DSS
salespeople should aim to understand customers’ businesses above and beyond simple product-
related needs (Sheth & Sharma, 2008; Ulaga & Kohli, 2018) and shape perceptions, needs, and
expectations between suppliers and customer stakeholders. Digital solutions generally impact
several customer processes. Thus, to exploit the full potential of a solution, salespeople should be
able to involve several counterparts in the customers’ decision-making units and closely collaborate
with coworkers from different business functions in their own organization (Panagopoulos et al.,
2017; Tuli et al., 2007).

This view of DSS perfectly overlaps with the key selling abilities associated with the
successful implementation of VBS identified by Terho et al. (2017): customer networking and
internal coordination. Customer networking refers to the salesperson’s ability to develop and
manage relationships with relevant members of the customer organization in general and decision
making unit in particular (Bradford et al., 2010). Identifying relevant stakeholders and building
relationships with them helps salespeople access critical knowledge about customers’ business,
various goals, and unique usage situations (Terho et al., 2017; MacDonald et al., 2016). For
instance, purchasing managers, general managers, finance, external consultants, and functional or
technical experts may be involved. The provider can customize the digital solution effectively with
an excellent understanding of their customers’ specific challenges, objectives, operating practices,
and competitive environment. It helps all relevant parties develop new norms and routines that
warrant its value-in-use and economic contribution to the customer’s business (MacDonald et al.
2016).
Internal coordination refers to the salesperson’s ability to coordinate colleagues from different departments to design customized (digital) solutions (Terho et al., 2017). Because customizing a solution is a complex task, with many information and resource demands that generally are beyond the capabilities of a single salesperson, salespeople need effective internal networks (Schmitz, 2013; Schmitz & Ganesan, 2014). This is particularly true for digital solutions (Grewal et al., 2020). Orienting the company around customer outcomes requires internal alignment to help prioritize the shift from maximizing each department's efficiency to maximizing the value and payoff of the digital solution to the customer (Grove et al., 2018). With the ability to develop better relationships inside their organization, salespeople gain access to relevant information to coordinate the related efforts of value creation and delivery and can better influence their customers’ decision-makers (Üstüner & Iacobucci, 2012; Storbacka et al., 2009).

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Figure 1 shows the framework we developed regarding DSS implementation at the individual level. It draws on the MOA logic. Although MOA theory is popular, a single convincing way of connecting its components does not exist (e.g., Siemsen et al., 2008). Consistent with Guenzi & Nijssen (2020), we argue that motivation and ability are under the control of the individual salesperson whose VBS behaviors our model aims to predict. In contrast, an opportunity is an exogenous (i.e., supervisor-related) variable that affects the individual's motivation and ability to display the desired behavior. Therefore, we model the opportunity variable as a predictor of the individual’s motivation, ability, and of the behavior that we want to predict, i.e., VBS. We develop our hypotheses next.

Both the SS and VBS approaches typically require specific abilities of the salesperson to understand the customer’s business model, value drivers, stakeholders and business processes, as well as to orchestrate the internal resources needed to craft a tailored solution (Delpechitre et al.,
2020; Liinamaa et al., 2016). Salespeople’s customer networking ability helps to identify decision-makers, users, and other stakeholders and build relationships with them. It offers them access to important knowledge about customers’ business processes, unique usage situations, and objectives for the future (MacDonald et al., 2011). It also makes it easier for the salespeople to calculate and thus show the customer the financial returns and thus the economic impact of this value for different members of the customer organization (Terho et al., 2017). Salespeople who strive to influence the customer’s value creation process and adopt proactive value co-creator roles are better positioned to ensure the value-in-use of the proposed solution (Aarikka-Stenroos and Jaakkola, 2012).

Salespeople’s ability to internally coordinate between functions facilitates their access to specialized skills and expertise required to configure a customized solution for the customer (Panagopoulos et al., 2017; Storbacka et al., 2011). High-quality cross-functional cooperation helps to better process and use customer-related information and thus craft a better value proposition. By supplementing their customer need knowledge with information from colleagues of other functions, salespeople can better estimate the customer’s cost and revenue gains. It will also allow the salesperson to communicate the economic benefits more convincingly to the customer’s decision making unit. In the context of traditional (i.e. non-digital) solutions, Terho et al. (2017) offer initial support for these assumed relationships. They found that salespeople’s internal coordination and external networking abilities positively affect VBS behavior.

We argue that digital solutions will require even stronger internal coordination and external networking abilities. At the organizational level, digital business capability includes the ability of digital integration, which concerns the degree to which a firm establishes linkages that coordinate business processes within and across its boundaries to deliver new forms of value through combinations of digital technologies (Wielgos et al. 2021). We anticipate that the same applies at the individual salesperson-level. Hence, we hypothesize:
H1: A salesperson’s ability to practice (a) DSS-related internal coordination, and (b) DSS-related customer networking will increase the salesperson’s VBS.

Selling digital solutions represents a transformation requiring salespeople to master new knowledge and skills and unlearn old product selling routines (Ahearne et al., 2010; Kohli et al., 1998). It emphasizes the importance of salespeople to be motivated to develop new abilities. Homburg, Hohenberg & Hahn (2019) stress the importance to investigate task-specific over general motivation. Therefore, we propose that a salesperson’s motivation for implementing DSS will be critical for any organization to succeed at implementing a digital solutions strategy. More specifically, we argue that DSS-related implementation motivation is a key precondition for salespeople to foster the abilities they need to develop for implementing VBS.

The relational processes involved in developing and delivering solutions highlight the importance of developing mechanisms for coordinating the different functions and units that perform activities (Tuli et al., 2008). For example, sales or business development typically defines requirements, whereas the customer support function performs post-deployment support. In the case of digital solutions, we argue that all internal functions (especially those possessing specialized digital technologies competencies) need to align their activities for each of the four processes if the provider is to deliver an effective solution to the customer. As members of the key customer-facing function, salespeople will have a vital role in helping orchestrate and coordinate these various functional units. The coordination costs for crafting idiosyncratic customer solutions will be substantial and thus require salespeople to invest serious time and resources. It makes DSS implementation motivation an essential precondition for developing the necessary abilities of DSS-related internal coordination. Hence:

H2a: DSS implementation motivation increases a salesperson’s DSS-related internal coordination.
Selling digital solutions also requires an excellent understanding of a customer’s business processes and the ability to account for different perceptions and goals of individual stakeholders (Macdonald et al., 2016). A structured way should be developed to approach stakeholders and create engagement at different levels. To mitigate perceived risk, the salesperson should be able to provide political and operational counseling. It will help understand better the benefits that are significant to the customer’s different stakeholders and the metrics the customer uses to assess solution performance (Tuli et al., 2008). Since most digital solutions require new norms and routines, the salesperson needs to be able to work closely with the customer to identify necessary changes to internal customer processes and procedures, train their staff, and schedule the actual implementation of the solution with the customer. Because these activities are complex and time-consuming, and positive outcomes are not guaranteed, a strong motivation to develop these essential customer networking skills is required. Hence:

\[ H2b: \text{DSS implementation motivation increases a salesperson’s DSS-related customer networking.} \]

Although an individual salesperson’s motivation to develop and sell (digital) solutions to customers will drive the adoption of DSS-related abilities, we argue it will also directly stimulate VBS behavior. DSS implementation motivation is the basis for analyzing the customer’s position and business goals in detail, learning, and contributing functionally and economically to these customer business processes (Terho et al., 2017). Salespeople with high task-motivation will focus on value-in-use creation and demonstrating this value to the customer. They will work hard to communicate the customer value delivered and its economic contribution convincingly because the economic dimension is more salient to them. Therefore, we propose:

\[ H3: \text{DSS implementation motivation increases a salesperson’s VBS.} \]

Wang et al. (2020) posited that salesforce control (combined activity- and capabilities-based behavioral control) drives salesperson motivation to practice effectual and thus solutions-oriented
value selling. However, they did not test the relationship empirically. The suggestion that supervisors’ DSS-focused behavioral control may foster subordinates’ motivation to implement DSS is also conceptually supported by expectancy theory (Oliver, 1974). This theory suggests salespeople will be motivated to practice DSS by more explicit expectations about what is needed to implement DSS successfully. Specifically, salespeople’s motivation to perform the specific task of selling digital solutions can be increased by supervisors’ DSS-focused behavioral control because it fosters subordinates’ engagement with the task (Wageman, 2001), enhances competencies that stimulate task interest (Deci and Ryan, 1985), and develops confidence and empowerment to take actions leading to task improvement (Rich, 1998). In conclusion, providing clear guidelines about what should be done and how to sell digital solutions and the specific competencies required to practice DSS will stimulate salespeople to spend time and effort on the related activities. Additionally, sharing best practices and providing continuous and detailed feedback by supervisors’ behavioral control may also increase salespeople’s perceptions of self-efficacy, specifically in DSS, which can foster their motivation to implement this strategy (Bandura, 1977). Hence:

H4: Perceptions of supervisor’s DSS-focused behavioral control increase a salesperson’s motivation to implement DSS.

Through behavioral control, managers stimulate introspection, reflection, and self-learning by providing clear expectations about the skill set needed to perform behaviors and offering detailed feedback on individuals’ possession of such abilities (Kloot, 1997). A supervisor’s emphasis on behavioral control for a specific activity and related capabilities implies role modeling, which fosters learning by personal example and the facilitation of the sharing of best practices among salespeople (Rich, 1998). As such, behavioral control mirrors the concept of behavior-based coaching (Ellinger et al., 2003), which facilitates learning regarding internal coordination and external networking. Under a DSS-focused behavioral control, subordinates will learn how to coordinate and network in the digital solution context.
Research confirms behavioral control is associated with both smarter selling and higher acceptance of cooperation/teamwork (Oliver & Anderson, 1994). The former implies better customer networking ability, while the latter points to better internal coordination skills. Therefore:

**H5:** Perceptions of supervisor’s DSS-focused behavioral control increases a salesperson’s (a) DSS-related internal coordination, and (b) DSS-related customer networking.

To date, the impact of sales force controls on VBS has remained untested. Kienzler, Kindström, and Brashear-Alejandro (2019) argued that managerial support, in the form of advice, encouragement, and feedback, is critical in challenging environments like those requiring VBS (Ulaga & Loveland, 2014). However, the authors found only partial empirical support for the assumption. Still, because DSS is challenging and characterized by low selling/non-selling activity ratios, we anticipate and test the positive effect of DSS-focused supervisor control on VBS (Oliver & Anderson, 1994). Thus:

**H6:** Perceptions of supervisor’s DSS-focused behavioral control increase a salesperson’s VBS.

**METHOD**

**Institutional Context**

We collected data from the Italian sales force of a supplier and global market leader of power tools for the professional construction industry (B2B market). The company recently invested in digital technologies and developed, for instance, mobile systems for job-site product selection, ordering and purchase tracking, installation and usage instructions, and troubleshooting support. All such digital solutions aim at helping customers save costs and make their business more profitable.

Salespeople generally engage multiple customer stakeholders (e.g., owner, safety manager, warehouse manager), and then with the support of colleagues from different departments (e.g., technical assistance, finance, legal) a specific, customized project is then developed (for example,
customers can decide which of their employees are authorized to register and process tools and equipment in the system). The solution performance (i.e., reduction in stolen tools) is monitored and evaluated periodically. In sum, this company represents an interesting context to investigate salespeople’s implementation of a DSS strategy in a B2B setting since the company's focus switched from selling only tools to selling digital solutions like the asset management system described above.

Using an online survey, we gathered data from the company’s sales force to test our framework and hypotheses. Respondents were promised complete anonymity to obtain honest responses. In total 389 salespeople received a personal invitation to participate in the study, of which 178 surveys were returned and analyzed (net response rate of 45.8%). Most salespeople in our sample are male, i.e., 89.4%, and have 15 or more years of experience in sales (52.5%). At the same time, 45.2% are 40 or younger. These values mirror those of the entire population of salespeople in the company under consideration. Table 2 provides some details about our sample.

To test for non-response bias, we compared early and late respondents, using late respondents as a proxy for non-respondents. No significant differences were found comparing both groups on all model variables (all $p > .10$). This finding suggests that non-response bias is not a serious factor while interpreting the data.

**Questionnaire development**

Appendix A provides an overview of the study constructs and their operationalization. All constructs used multi-item scales taken from the literature, sometimes slightly adapted for our context. We dropped some items following a pre-test with the company’s managers, who pointed out redundancy in scales in a few instances.

The measure of DSS implementation motivation was taken from Johnson and Sohi (2017). Based on the pre-test with the company’s managers, we selected 3 items for matters of conciseness. Internal coordination was operationalized using the 7 items of the scale of Johnson and Sohi (2017),
while for customer networking, we relied on the 4 items from a measure from Palmatier (2008) also used by Terho et al. (2017). Our measure for VBS was developed by Terho et al. (2015). The items refer to the salesperson demonstrating the financial value of a solution and its contribution to the customer’s bottom line. Finally, for supervisors’ DSS-focused control behavior, we adapted the multi-item measures for activity and capability control from Miao and Evans (2014).

Most of the variables were positively skewed (mean > 6), which reflects our focus on a firm implementing DSS and VBS, and thus should not come as a surprise. Still, skewness and kurtosis tests were used to check the normality of the data. A skewness value larger than 2 and kurtosis value larger than 7 suggest non-normality of data (West, Finch & Curran, 1995). Our data meet this criterion.

Controls

Several control variables were added to ensure proper model estimation. First, we controlled for extrinsic motivation (i.e. the individual’s perception of the provision by the company of adequate rewards for solutions selling, measured using a single item), which has been found to increase salespeople’s adoption of new technologies on the job (Rahrovani & Pinsonneault, 2020). Second, we control for several demographics: experience, age, and gender. More seasoned employees may respond better or worse to new initiatives like DSS. Experienced employees may be more reluctant but once adopting DSS may be more effective using the approach. Age is important because younger salespeople could be more tech-savvy and more able to sell digital solutions.

Measure validation

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1 More specifically, in a couple of cases our data were borderline. In fact, the skewness of the supervisor control scores was found to be -1.99, indicating that the distribution is left-skewed. Its kurtosis was 6.61. This score indicates that the distribution is more heavy-tailed compared to the normal distribution. A similar but less pronounced pattern was observed for VBS (-1.40 and 5.70 respectively). Still, as for smaller samples one may be more stringent (Kim 2013), we deleted one item, which helped reduce the kurtosis score of the supervisor control to 5.62 and its skewness value to -1.81.

2 Item: The reward system in my company adequately rewards solutions selling vis à vis product selling.

3 We thank one of the reviewers for pointing this out.
We analyzed the quality of measures in two steps. First, we used preliminary, exploratory factor analysis to check our multi-items constructs. All items loaded on their respective constructs (factor scores >.5) (see Appendix A; maximum cross-loading of .36). Second, the internal consistency of the constructs was examined using Average Variance Extracted (AVE) and Cronbach \( \alpha \). The AVE for the constructs exceeds .50 and the reliabilities exceed .70. These results suggest acceptable levels of internal consistency (Table 3). Fornell and Larcker’s (1981) test for discriminant validity was also conducted, confirming the discriminant validity of the constructs (see Table 3 for correlation matrix with square root of AVE of constructs on the diagonal). A test using the HTMT-ratio of correlations as a criterion to assess discriminant validity generated the same result and conclusion (Henseler, Ringle, & Sarstedt, 2015).

The questionnaire was developed according to the procedures recommended by Churchill (1979). Because common method bias is a concern when using a survey instrument to measure independent and dependent variables, we followed the procedures that Podsakoff et al. (2003) mentioned, e.g. ensuring respondents' complete confidentiality for candid responses and varying scale formats to keep respondents’ attention high.\(^4\)

**Analyses and test of common method bias**

We used SmartPLS3 (version 3.3.7) to obtain partial least squares (PLS) estimates for our structural equation model's structural and measurement parameters. PLS requires fewer assumptions about data distribution than other covariance matrix techniques and thus makes its estimations less sensitive to data skewness and kurtosis. Consistent with general recommendations for obtaining stable results, SmartPLS’s bootstrapping option with 5000 samples was used. To check for potential collinearity, VIF scores were considered. Inclusion of respondent age together with the respondent’s experience

\(^4\) Ensuring anonymity, as we did, is also a generally accepted strategy to remedy the bias to sensitive questions such as those regarding motivation (see, e.g., Ong & Weiss, 2006).
significantly inflated VIF scores (>4). Age was therefore removed from the model based on this observation and these variables’ very high correlation (.85).

Next, we evaluated the model fit of our path model using SRMR as a measure of approximate fit to obtain empirical evidence for the proposed theoretical model (Benitez, Henseler, Castillo, and Schuberth, 2020). The value of the SRMR of our model was .060 and thus below the recommended threshold value of 0.080 (Henseler, et al. 2014). The test of overall model fit (d_{ULS} and d_{G}) was also below the 95% quantile of their reference distribution (.155 vs. .159 and 1.03 vs. 1.58, respectively) also supporting the assumption of adequate model fit of our data.

To post-hoc examine potential common method bias, we used a directly measured latent method factor. This approach requires the researcher to first identify a method factor that is theoretically anticipated to influence many of the measurement items in a model and collect multiple measures for this factor (e.g., Hulland, et al. 2017). We focused on perceptions about the supervisor's short-term orientation, which should be negatively related to most items in our DSS model. Two positively framed items (“Puts a lot of pressure on achieving short-term results,” and “Is very focused on reaching short-term, immediate targets”), and one reverse worded one had been included (“Stimulates the pursuit of long term goals, even when this implies the risk to sacrifice short-term results”) (Weijters et al. 2013). A principal component analysis confirmed that, once reversed, all items correlated positively and formed a single factor. Moreover, the path model without and with the measurement factor generated a similar pattern of significant results, suggesting common method bias is not a serious problem when interpreting our findings.

[TABLE 4 about here]

RESULTS

Table 4 shows the results of the PLS estimations of our framework. The predictors explain a fair share of variance in the different dependent variables in our model (between 21.7% and 49.1%). The
detailed results prove that most relationships of the main paths in the model are significant too. We will discuss these detailed results systematically.

Consistent with prior research (Terho et al., 2017) we find that DSS-related customer networking and DSS-related internal coordination affect the salesperson’s VBS behaviors. Although both significant, the effect size of internal coordination is smaller than that of customer networking on VBS ($B=.228, p<.05$ vs. $B=.403, p<.01$). This finding supports hypotheses H1a and b. Motivation to implement DSS drives both DSS-related internal coordination and customer networking ($B=.451$ and $.461, p<.01$), which supports H2a and b. Because the direct effect of DSS implementation motivation on VBS is not significant ($B=.054, n.s.$) the two ability variables fully mediate the path from DSS implementation motivation to VBS. Hence, there is no support for the direct effect hypothesis H3.

Perceived DSS-focused behavioral control has multiple significant effects. First, as anticipated, it fosters salespeople’s DSS implementation motivation ($B=.465, p<.01$). This supports H4. At the same time, perceived DSS-focused behavioral control significantly stimulates internal coordination ($B=.233, p<.05$), but not customer networking ($B=.093, n.s.$). So, there is support for H5b, but not for H5a. Perceived DSS-focused behavioral control also has a significant positive direct effect on VBS ($B=.223, p<.01$) and thus the outcome of the implementation process. This means that our results also support H6.

Of the controls, only experience significantly impacts one variable, i.e. more experienced salespeople engage more in internal coordination ($B=.161, p<.01$). It confirms internal coordination as an ability that is, at least partially, built over the years.

Table 5 shows the significant results for specific indirect relationships, thus providing a better view of VBS's mechanisms. First, we note that DSS implementation motivation features prominently in all significant pathways. It, therefore, has a very central role. As mentioned, its effect on VBS is entirely mediated by both internal coordination and external networking. The effect size for external networking is higher than for internal networking ($B=.186, p<.01$ vs. $103$,
Second, also DSS-focused behavioral control plays a major role since it affects both the abilities and VBS not only directly but also indirectly, i.e. via DSS implementation motivation. It suggests that supervisor DSS-related behavioral control is key to internal coordination and external networking, as well as to VBS in the DSS context (i.e., B=.084, p<.001 via motivation/external networking path and B=.046, p<.05 via motivation/internal coordination path). Thus, sales managers are important for DSS implementation; they make a difference.

TABLE 5 about here

Performance impact

In a final post-hoc test, we explored the impact of VBS on sales performance. The latter was measured using three self-assessed items (see Appendix A): the level of self-perceived target attainment, excellent selling results, and the organization’s satisfaction with sales results achieved in selling digital solutions (x̄ = 5.0, s = 1.20, AVE=.82, Cronbach α=.89). The results showed a positive effect of VBS on DSS-related sales performance (B=.22, t=2.08, p<.05). However, whereas internal coordination had no impact (B=-.08, t=.96, n.s.), customer networking did significantly contribute to sales performance directly too (B=.27, t=3.23, p<.01).

Interestingly, perceived supervisor DSS-focused behavioral control also directly impacted the individual’s perceived sales performance (B=.16, t=.200, p<.05). The control variables experience and extrinsic rewards also positively affected performance (B=.16, t=2.47, p<.05; B=.21, t=2.82, p<.01, respectively). These results suggest the effectiveness of both DSS and VBS on performance, offering an additional understanding of their causal relationship.

DISCUSSION

Many B2B companies are developing new digital solutions and need to change their sales force behaviors accordingly, implementing SS and VBS strategies. Mainly due to the feature-richness, uncertainty and rapid obsolescence of digital technologies, developing the market for these
solutions is challenging. Customizing digital solutions to customer needs is time-consuming and furnished with risk for both customers and salespeople. To succeed in DSS and VBS, salespeople need to help identify customer requirements and configure—together with their colleagues—a digital solution that delivers the right value-in-use and demonstrates a contribution to its business and thus the bottom line.

Our results offer new insights extending the literature on the digitalization of selling and on sales strategies for digital solutions. First and foremost, our results shed light on the underexplored relationship between DSS implementation motivation and VBS, showing that the former affects the latter indirectly, i.e., through DSS-related customer networking and internal coordination, which act as key abilities salespeople have to possess. This finding confirms and extends prior work on VBS in general (Böhm et al., 2020; Terho et al., 2017) to the context of DSS. Second, our results highlight the pivotal role of sales supervisors’ DSS-focused behavioral control in stimulating the critical skills and behaviors salespeople should develop and adopt to implement solutions-oriented and value-creating strategies. DSS-focused behavioral control significantly increases salespersons’ DSS implementation motivation and enables the sales force to develop necessary customer networking and VBS abilities. The impact on VBS via internal coordination is weaker, since it works only indirectly, via the impact on DSS implementation motivation. It suggests that leaders could be more outwardly looking toward sales performance in the field than paying close attention to their staff’s internal coordination with other functional areas. Our findings suggest sales managers may neglect this aspect in DSS, but given the positive correlation of internal coordination with VBS, its importance should not be underestimated (Plouffe & Barclay, 2007).

The results suggest a key role for DSS-focused behavioral control and highlight that it affects VBS both directly and indirectly, i.e., via DSS implementation motivation. Motivation is key to developing network abilities in and outside the firm that gives way to VBS for the digital solution offered by the firm. These findings highlight the potency of applying the MOA framework
to predict salespeople behaviors in contexts of high complexity (like SS and VBS). Supervisors represent an important opportunity for salesperson VBS thanks to their role modeling contribution that enhances salespersons’ self-efficacy, carefully crafts their expectations (Fu et al., 2010), and ultimately stimulates sales performance for the digital solutions.

Theoretical implications

From a theoretical perspective, our study provides several valuable contributions.

First, we contribute to the literature on the impact of digital technologies on sales organizations. So far, most studies on this topic have mainly focused on the technology infusion process and analyzed salespeople’s adoption of digital technologies to sell traditional (i.e. non-digital) products and services. Our research focuses instead on selling digitally-enabled solutions and how this affects the adoption of a value-creating approach with customers. Conceptually and practically, we believe this is a significant difference, because it captures a substantial transformation in the value-creating role of salespeople that goes beyond simply learning how to use technological tools in their business-as-usual job, which has been the largely prevailing perspective in the literature on technology infusion in the sales force (Singh et al., 2019).

Second, although the extant literature examined the relationship between VBS and several other selling behaviors, surprisingly, it never explored its relationship with solution selling in general and DSS in particular. Prior studies also focused at the corporate rather than individual level. Our contribution responds to calls for more focus on how to implement selling strategies (Johnson and Sohi, 2017). Our study is one of the first (if not the only) to explicitly analyze some fundamental mechanisms of DSS. The findings show that the impact of DSS implementation motivation on VBS is fully mediated by DSS-related internal coordination and customer networking, which confirms that these abilities are pivotal to both DSS and VBS.

Third, our study sheds light on the under-researched role of motivation in stimulating both DSS and VBS. Exploring salespeople’s motivation as a driver is a significant contribution since it is
a relevant but largely unexplored topic in the literature on the digitalization of sales forces (for a review, see Guenzi and Nijssen, 2021) and in research on VBS (Mullins et al., 2020). We believe this contribution is conceptually relevant because it has been emphasized that sales research should investigate task-specific motivation over general motivation (Homburg, Hohenberg & Hahn, 2019).

Additionally, our study shows that sales supervisors’ behavioral control is critical to implementing DSS and VBS effectively. It stimulates DSS implementation motivation of subordinates and helps the sales staff develop DSS-related customer networking and VBS abilities. We believe this is a worthwhile contribution to theory, both for research on the digitalization of sales forces and on solutions and value selling, where the investigation of the role of supervisors has been largely neglected (Kienzler et al., 2019; Liu and Zhao, 2021). We also add to the literature on sales force control systems, which failed to consistently demonstrate that behavioral control drives better behavioral performance at the salesperson level (Baldauf et al., 2005). By investigating DSS-focused behavioral control, we demonstrated that the anticipated relationship is significant, and the control mechanism does exist. Our decision to use a context-specific construct paid off.

Managerial implications

From a managerial standpoint, we provide salespeople, sales managers, and sales organizations at large with valuable and actionable insights. Companies willing to implement VBS through DSS should first realize the fundamental role of sales supervisors in influencing salespeople’s DSS, VBS, internal coordination, and customer networking: supervisors should adopt a DSS-focused behavioral control. Supervisors should develop these leadership capabilities and use them.

Companies should support supervisors in this role by offering appropriate training (e.g., on how to manage detailed feedback to salespeople constructively) and sales performance management systems that systematically track sales force activities and performance and, ideally, relate them to individual skills of salespeople. Such systems will provide supervisors with accurate and timely information about salespeople’s behaviors and abilities, allowing them to take necessary actions.
Similarly, the systematic development and sharing of best practices in DSS and VBS would provide all sales supervisors with fact-based, updated, powerful foundations to promote homogenous role modeling behaviors across different managers. In the same logic, equipping sales supervisors with well-structured procedures and forms for periodic systematic reviews and feedback sessions with salespeople on DSS will help them improve their behavioral control for the digital solutions. It will prevent subjective and heterogeneous interpretations about why, when, and how to play this vital role.

Our findings highlight the pivotal role of DSS implementation motivation in stimulating VBS. Next to the mentioned actions regarding management behavioral control, management should foster this motivation by introducing specific incentives and rewards for selling digital solutions. In keeping with self-efficacy theory, companies should also invest in re-skilling and up-skilling salespeople, because introducing specific training to sell the digital solutions may reinforce this task-specific motivation of the sales force. Interventions should facilitate the individual-level DSS-related internal coordination and customer networking abilities. Apart from stimulating teamwork skills to increase the quality and frequency of salespeople’s interactions with colleagues from different departments, firms could develop their sales force’s ability to focus internal interactions around quantifying the economic benefits of the digital solution for the customer.

Similarly, companies could foster customer networking abilities by investing in campaigns and training on social media to expand personal networks and quickly identify the customer’s relevant stakeholders. Strengthening the sales force’s skills in discussing the current and potential value drivers and monetary impacts of digital solutions with members of the customer organization would be helpful, too. Supportive tools (e.g., ROI simulators for digital solutions) could be developed and made available.

Limitations of the study and guidelines for future research on the topic
Our study has several limitations which provide exciting opportunities for further developments in future research.

First, we examined a single company, which can make results less generalizable. Thus, future studies including and analyzing firms from different industries would be useful. Such a research design would offer the possibility to incorporate the potential impact of industry-specific factors such as complexity and differentiation of core offerings, length of average selling cycles, etc., on the relationships between variables in our model. Similarly, future research may also investigate if the relationships analyzed in our study hold true for different types of digital solutions.

Second, although internal coordination and customer networking represent key constructs in both the SS and the VBS literature, other relevant abilities of salespeople could be considered. The same is true for behaviors potentially conducive to VBS: for example, using sales content and tools to analyze, quantify, and communicate to customers the value of the proposed solutions may also play a role. In addition, several abilities and behaviors may be used as moderators of the relationships investigated in our study.

Third, other relevant characteristics and behaviors of supervisors could be studied. Because selling digital solutions requires substantial upfront investments of time and resources without any guarantees of success, supervisor risk aversion could act as a barrier for salespeople to adopting the necessary motivation, abilities and behaviors. A leader’s ability to stimulate team spirit and promote teamwork may be relevant too. It could affect individuals’ internal coordination ability, which mediates their DSS implementation motivation -VBS relationship.

Finally, future research could use alternative motivation models such as the Job Demands-Resources perspective to examine how individual and organizational variables (e.g. talents, support, etc.) impact a salesperson’s behavioral and outcome performance in DSS and VBS. Such an approach would help account for the availability of resources for the demanding task of DSS.
REFERENCES


Figure 1: Motivation Framework of Digital Solution Selling (DSS) Strategy Implementation and VBS
Table 1: Prior research on VBS at the level of individual salesperson and positioning of the current study

<table>
<thead>
<tr>
<th>Study</th>
<th>Nature of the paper</th>
<th>Focal construct</th>
<th>Drivers of VBS</th>
<th>DSS as predictor of VBS?</th>
<th>Consequences of VBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kienzler et al. (2019)</td>
<td>Empirical (quantitative)</td>
<td>Comprehension, crafting and confirmation behaviors</td>
<td>Managerial support, experience, learning orientation</td>
<td>No</td>
<td>Sales performance</td>
</tr>
<tr>
<td>Mullins et al. (2020)</td>
<td>Empirical (quantitative)</td>
<td>VBS as a salesperson behavior</td>
<td>Salesperson and supervisor-related variables</td>
<td>No</td>
<td>Customer's adoption of new products</td>
</tr>
<tr>
<td>Salonen et al. (2021)</td>
<td>Empirical (quantitative)</td>
<td>Solution selling engagement</td>
<td>None</td>
<td>No</td>
<td>Solution selling engagement*</td>
</tr>
<tr>
<td>Terho et al. (2012)</td>
<td>Empirical (qualitative)</td>
<td>VBS as a salesperson behavior</td>
<td>None</td>
<td>No</td>
<td>Seller, relationship and customer outcomes</td>
</tr>
<tr>
<td>Terho et al. (2017)</td>
<td>Empirical (quantitative)</td>
<td>VBS as a salesperson behavior</td>
<td>Motivation (Learning orientation), Ability (Customer Networking, Internal Networking), Opportunity (Value assessment tools, Customer reference marketing, Customers' value demandingness)</td>
<td>No</td>
<td>Salesperson's selling performance</td>
</tr>
<tr>
<td>Our study</td>
<td>Empirical (quantitative)</td>
<td>VBS as a salesperson behavior</td>
<td>Motivation (DSS Implementation motivation), Ability (Customer Networking, Internal Networking), Opportunity (DSS-focused behavioral control)</td>
<td>Yes</td>
<td>DSS performance</td>
</tr>
</tbody>
</table>

* Our study investigates how DSS implementation motivation (a motivation) influences value-based selling (a behavior) and how that influences solution selling performance. In contrast, Salonen et al. (2021) investigate how the fit between several salesperson conditions (including VBS) and several organizational conditions influence SP solution selling engagement (measured as a behavior assessing the extent to which solution selling is done).
### Table 2: Demographics of sample

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>%</th>
<th>Firm tenure (in years)</th>
<th>%</th>
<th>Sales experience (in years)</th>
<th>%</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>12.3</td>
<td>0-5</td>
<td>39.1</td>
<td>0-5</td>
<td>25.1</td>
<td>male</td>
</tr>
<tr>
<td>31-40</td>
<td>22.9</td>
<td>6-15</td>
<td>23.5</td>
<td>6-15</td>
<td>22.4</td>
<td>female</td>
</tr>
<tr>
<td>41-50</td>
<td>40.2</td>
<td>11-20</td>
<td>15.6</td>
<td>&gt;15</td>
<td>52.5</td>
<td></td>
</tr>
<tr>
<td>&gt;50</td>
<td>24.6</td>
<td>&gt;20</td>
<td>21.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3: Measurement properties and correlations of constructs used in the study

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean</th>
<th>St dev</th>
<th>AVE</th>
<th>Cronbach α</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DSS-focused behavioral control</td>
<td>6.00</td>
<td>.95</td>
<td>.69</td>
<td>.91</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. DSS implementation motivation</td>
<td>6.12</td>
<td>.71</td>
<td>.77</td>
<td>.85</td>
<td>.47**</td>
<td>.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Internal coordination</td>
<td>6.01</td>
<td>.70</td>
<td>.58</td>
<td>.85</td>
<td>.41**</td>
<td>.55**</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Customer networking</td>
<td>6.09</td>
<td>.59</td>
<td>.55</td>
<td>.73</td>
<td>.30**</td>
<td>.50**</td>
<td>.47**</td>
<td>.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. VBS</td>
<td>6.15</td>
<td>.65</td>
<td>.63</td>
<td>.85</td>
<td>.45**</td>
<td>.49**</td>
<td>.54**</td>
<td>.60**</td>
<td>.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Extrinsic motivation</td>
<td>4.77</td>
<td>.17</td>
<td>1.00</td>
<td>NA</td>
<td>.35**</td>
<td>.21**</td>
<td>.11*</td>
<td>.13*</td>
<td>.14**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Experience</td>
<td>12.20</td>
<td>9.30</td>
<td>1.00</td>
<td>NA</td>
<td>.01</td>
<td>.08</td>
<td>.19**</td>
<td>.15*</td>
<td>.12</td>
<td>.20*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Gender</td>
<td>NA</td>
<td>NA</td>
<td>1.00</td>
<td>NA</td>
<td>.03</td>
<td>.06</td>
<td>-.04</td>
<td>-.11*</td>
<td>-.00</td>
<td>-.03</td>
<td>-.32**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Age</td>
<td>43.07</td>
<td>9.77</td>
<td>1.00</td>
<td>NA</td>
<td>.14**</td>
<td>.15**</td>
<td>.23**</td>
<td>.19**</td>
<td>.16**</td>
<td>.23**</td>
<td>.86**</td>
<td>-.36**</td>
<td></td>
</tr>
</tbody>
</table>

Note: square root AVE in *italics* on the diagonal;
*p < 0.05, **p < 0.01, two-tailed test.
Table 4: Results of the PLS estimates of the Model

<table>
<thead>
<tr>
<th>Independent var’s</th>
<th>DSS implementation motivation</th>
<th>Internal coordination</th>
<th>Customer networking</th>
<th>VBS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>St.Err</td>
<td>T-value</td>
<td>B</td>
</tr>
<tr>
<td>DSS-focused behavioral control</td>
<td>.450</td>
<td>.09</td>
<td>4.84**</td>
<td>.233</td>
</tr>
<tr>
<td>DSS implementation motivation</td>
<td></td>
<td></td>
<td></td>
<td>.451</td>
</tr>
<tr>
<td>Internal coordination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer networking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic motivation</td>
<td>.036</td>
<td>.08</td>
<td>.44</td>
<td>-.099</td>
</tr>
<tr>
<td>Experience</td>
<td>.089</td>
<td>.07</td>
<td>1.35</td>
<td>.161</td>
</tr>
<tr>
<td>Gender</td>
<td>.078</td>
<td>.06</td>
<td>1.40</td>
<td>-.023</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>.211</td>
<td></td>
<td>.345</td>
<td>.261</td>
</tr>
</tbody>
</table>

Note: As mentioned in the text, age was removed from the analyses due to its high correlation with experience.
*p < 0.05, **p < 0.01, two-tailed test.
Table 5: Specific indirect relationships (PLS analysis)

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>B</th>
<th>Stand. Dev.</th>
<th>T Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSS-focused behavioral control → DSS implementation motivation → DSS-related internal coordination → VBS</td>
<td>.046</td>
<td>.03</td>
<td>1.98*</td>
</tr>
<tr>
<td>DSS-focused behavioral control → DSS implementation motivation → DSS-related external networking → VBS</td>
<td>.084</td>
<td>.03</td>
<td>3.30**</td>
</tr>
<tr>
<td>DSS-focused behavioral control → DSS implementation motivation → DSS-related internal coordination</td>
<td>.203</td>
<td>.04</td>
<td>5.56**</td>
</tr>
<tr>
<td>DSS-focused behavioral control → DSS implementation motivation → DSS-related external networking</td>
<td>.207</td>
<td>.05</td>
<td>3.98**</td>
</tr>
<tr>
<td>DSS implementation motivation → DSS-related internal coordination → VBS</td>
<td>.103</td>
<td>.05</td>
<td>2.11*</td>
</tr>
<tr>
<td>DSS implementation motivation → DSS-related external networking → VBS</td>
<td>.186</td>
<td>.04</td>
<td>4.23**</td>
</tr>
</tbody>
</table>

Note: only significant paths shown

*p < 0.05, **p < 0.01, two-tailed test.
### APPENDIX A: Operationalziation and EFA Factor Loadings of Study Constructs

<table>
<thead>
<tr>
<th>Supervisors’ DSS-focused Behavioral control (adapted from Miao and Evans, 2014); 1 = Strongly Disagree, 7 = Strongly Agree. Regarding DSS…</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>My manager informs me about the sales activities I am expected to perform.†</td>
<td>-</td>
</tr>
<tr>
<td>My manager monitors how I perform required sales activities.</td>
<td>.83</td>
</tr>
<tr>
<td>My manager informs me whether I meet his/her expectations on sales activities.</td>
<td>.86</td>
</tr>
<tr>
<td>My manager periodically evaluates the selling skills I use to accomplish a task (e.g., how I negotiate).</td>
<td>.87</td>
</tr>
<tr>
<td>My manager provides guidance on ways to improve my selling skills and abilities.</td>
<td>.88</td>
</tr>
<tr>
<td>My manager evaluates how I make sales presentations and communicate with customers.</td>
<td>.85</td>
</tr>
<tr>
<td>I would be commended if I improve my selling skills.</td>
<td>.66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DSS implementation motivation (Johnson and Sohi, 2017); 1 = Strongly Disagree, 7 = Strongly Agree. In regard to plans associated with selling digital solutions,…</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am motivated to carry them out.</td>
<td>.88</td>
</tr>
<tr>
<td>Enacting them is important to me.</td>
<td>.90</td>
</tr>
<tr>
<td>I am driven to execute them.</td>
<td>.85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer networking (Palmatier, 2008, Terho et al., 2017); 1 = Strongly Disagree, 7 = Strongly Agree.</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>I work hard to identify the relevant key stakeholders for our products and services at my customers’ firm.</td>
<td>.72</td>
</tr>
<tr>
<td>Typically, I deal with the relevant decision makers for our products and services at my customers’ firm.</td>
<td>.79</td>
</tr>
<tr>
<td>Typically, the contacts I have at my customers’ firm make me very effective at working with them.</td>
<td>.78</td>
</tr>
<tr>
<td>Typically, I know a diverse cross-section of people at my customers' firm.</td>
<td>.66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal coordination (Johnson and Sohi, 2017); 1 = Strongly Disagree, 7 = Strongly Agree. When asked to implement plans associated with Selling solutions, I:</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>coordinate with other members of my company to carry them out.</td>
<td>.72</td>
</tr>
<tr>
<td>provide leadership within my organization to assure they are implemented.</td>
<td>.76</td>
</tr>
<tr>
<td>work with coworkers in my company to enact them.</td>
<td>.70</td>
</tr>
<tr>
<td>organize the efforts of members of my company to do so.</td>
<td>.78</td>
</tr>
<tr>
<td>direct the actions of members of my organization to carry them out.</td>
<td>.78</td>
</tr>
<tr>
<td>verify involved coworkers do what they are supposed to do to implement them</td>
<td>.81</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value-Based Selling (Terho et al., 2015, 2017); 1 = Strongly Disagree, 7 = Strongly Agree.</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>I work with my customers to find out what is needed to improve their performance.</td>
<td>.87</td>
</tr>
<tr>
<td>I actively demonstrate to my customers the financial impact of working with us.</td>
<td>.76</td>
</tr>
<tr>
<td>I focus on proactively improving my customers' business performance.</td>
<td>.81</td>
</tr>
<tr>
<td>I use a value-based selling approach.</td>
<td>.74</td>
</tr>
<tr>
<td>I focus on identifying opportunities to improve customers' business profits.</td>
<td>.77</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DSS sales performance 1 = Strongly Disagree, 7 = Strongly Agree.</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>My results in selling solutions are excellent</td>
<td>.92</td>
</tr>
<tr>
<td>I always reach my targets in terms of selling solutions</td>
<td>.90</td>
</tr>
<tr>
<td>My company is satisfied by the results I achieve in solutions selling</td>
<td>.89</td>
</tr>
</tbody>
</table>

Note: cross loadings did not exceed .36
†: item deleted