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The Role of Technology in Enabling Sales Support

Aaron D. Arndt
Old Dominion University, aarndt@odu.edu

Jason Harkins

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Aaron D. Arndt
Old Dominion University

Jason Harkins
University of Maine

The purpose of this research is to develop a framework explaining how technology can enable sales support. Sales support technology is often used to assist salespeople with a variety of transaction activities, such as prospecting, communicating, scheduling appointments, and processing orders. Sales support technology can be categorized as automation and facilitative technology. Our framework explains when a technology is appropriate for a particular sales activity based on workload and customization. It also proposes who should use a technology based on orientation towards sales revenue or cost control goals. Then, we develop managerial recommendations and propose directions for future research.

INTRODUCTION

Technology has become a key tool in sales support, defined as the assistance that salespeople receive during a sales transaction (Ledingham, Kovac, & Simon, 2006). For example, sales support may help with internal coordination, manual labor, distribution, installation, technical support, data entry, making reports, customer qualification, or finance processing (Barber & Tietje, 2008; Moncrief, Marshall, & Lassk, 2006; Sumrall 1992). Some researchers have even predicted that salesforce technology would automate sales support to the extent that very little time would need to be spent on support activities (e.g., Widmier, Jackson, & McCabe, 2002; Colletti & Chonko, 1997; Anderson, 1996). However, Moncrief, Marshall, and Lassk (2006) categorized 8.6% of sales positions as 'sales support'—representing more positions than key account managers (8.3%). Although sales support personnel were not included in Moncrief's (1986) original taxonomy, "it is very possible that Moncrief's (1986) residual category was actually sales support," (Moncrief, et al., 2006, p. 63). Larsson and Bowen (1989) explain that a high degree of service customization requires input from both the 'front office' and the 'back office.' Likewise, McMurray (1961) noted that each salesperson requires two 'executives'—one to manage and motivate the salesperson and another to handle the "detail of the work" as a record keeper. Hence, there is evidence that sales support employees have been, and continue to be, an important part of the salesforce.

The extent to which sales support can and should be fully automated is not clear from the extant literature. Indeed, sales support technology may facilitate sales support rather than automate it. As such, the purpose of this study is to develop a framework categorizing types of sales support technology and explaining when each type is beneficial. The order of the paper is as follows: after a brief review of the relevant research, a set of propositions about the relationship between sales activity characteristics, sales

support technology and sales activity goals are developed. Then, a normative typology is presented with recommendations about sales support technology. Finally, the paper will conclude with a set of future research goals.

LITERATURE REVIEW

Sales Transaction Activities

There are a variety of sales activities that take place during each sales transaction, for example, prospecting for customers, setting up appointments, attending internal meetings, providing technical support, processing orders, etc. (Barber and Tietfe, 2008). We contend that each sales activity varies on two underlying characteristics: 1) the workload required to complete the sales activity, and 2) the degree to which the sales activity must be customized for each sale.

Workload is the time and effort required to complete a task at a particular level of quality (DiDomenico & Nussbaum, 2008). Sales activities vary greatly in workload across industries, firms, SBU's and even time periods. For example, the sales department may spend a considerable amount of time coordinating with internal departments in one firm; yet not communicate at all in another firm. Hence, the workload for sales meetings is high in the first firm and low in the second firm. Similarly, if customers often buy on credit, the workload regarding financial applications will be higher than in firms where customers seldom use credit.

Sales activities also vary in the degree to which the activity is routine or must be customized to a particular transaction. Customization is adapting products, services, and processes to individual customers (Thirumalai & Sinha, 2009). For example, large retailers, such as Wal-Mart and Target, often require vendors adopt certain processes and technologies in order to better meet the retailer's needs (Ross, et al., 2009). The more that a sales activity requires customization, the less that it is possible standardized processes.
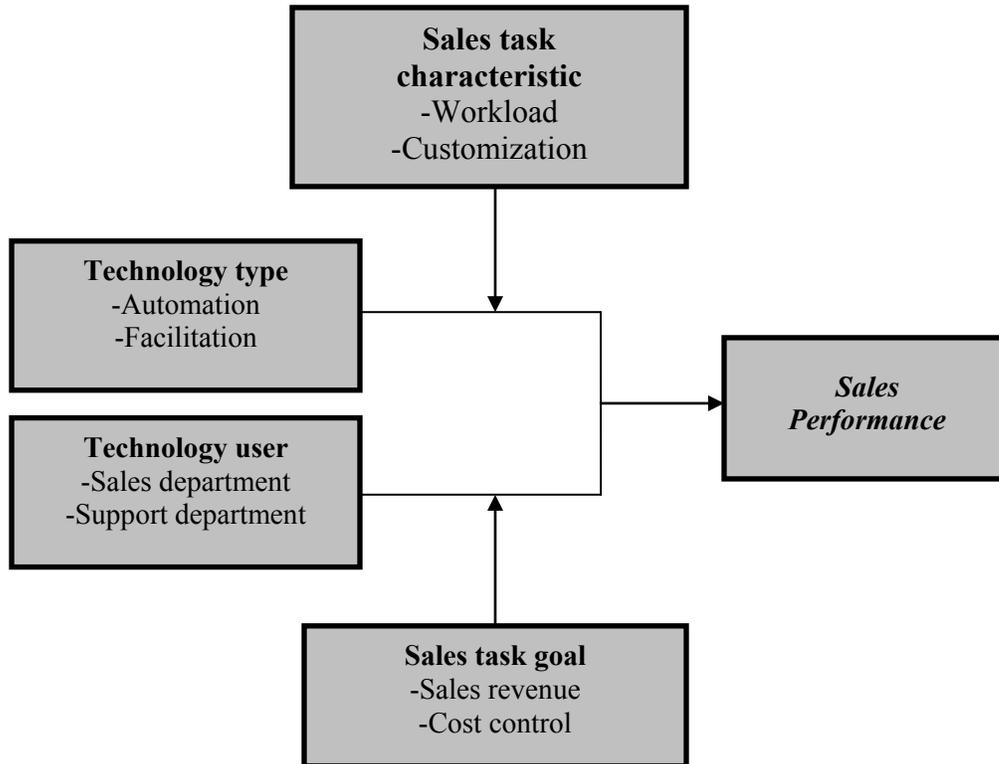
Sales Activity Goal

Not all sales activities lead to sales revenue; instead, some sales activities are meant to control costs. A central tenet of customer relationship management is that firms should focus resources on the most profitable customers (Landry, et al., 2005; Moncrief & Marshall, 2005). The needs of some customers are too expensive to serve profitably and some customers may be too risky. Therefore, sales transactions often require activities such as preparing financial applications (Barber & Tietje, 2008), qualifying customers (Moon & Armstrong, 1994; Shapiro & Posner, 2006), and reducing waste and errors (Barber & Tietje, 2008). Therefore, the goals of sales activities can be either increasing sales revenue or controlling costs.

Sales Force Technology

Widmier et al. (2002) argued that sales force technologies could be categorized as, 1) organizing, which includes technologies for automating, planning, and forecasting functions, 2) presenting, which includes portable multimedia technologies, 3) reporting, which sends out automated reports, 4) informing, which includes technologies for finding, analyzing, and distributing information, 5) supporting/ processing, including technology for customer qualification, inventory control, and process customer orders, and 6) communicating, which includes technologies for maintaining contact with customers and internal employees. Technologies for organizing, reporting, and processing/supporting automate functions while technologies for presenting, informing, and communicating appear to facilitate and enhance employee performance. Therefore, we contend that sales support technologies can be divided into two categories, 1) automation, which eliminates the need for a "live" employee during the transaction, and 2) facilitative technologies, which enable employee productivity. This categorization is consistent with Collins' et al. (1999) categorization of manufacturing technologies into "hard" automation, characterized by consistency, routineness, and rigidity, and "programmable" automation, characterized by flexibility and information sharing.

PROPOSITIONS

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FIGURE 1
CONCEPTUAL MODEL

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┌─────────────────────┐
│    Sales task       │
│   characteristic    │
│    -Workload        │
│    -Customization   │
└─────────────────────┘
              │
              ▼
┌──────────────────┐   ┌──────────┐        ┌──────────────┐
│ Technology type  │   │          │        │    Sales     │
│  -Automation     │───│          │───────▶│ Performance  │
│  -Facilitation   │   │          │        │              │
└──────────────────┘   │          │        └──────────────┘
┌──────────────────┐   │          │
│ Technology user  │   │          │
│ -Sales department│───│          │
│-Support department│  └──────────┘
└──────────────────┘        ▲
                            │
              ┌─────────────────────┐
              │   Sales task goal   │
              │   -Sales revenue    │
              │   -Cost control     │
              └─────────────────────┘
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Automation

Automation is used in routine processes in order to allow for efficient and consistent mass-production (Collins, et al., 1999). Automation essentially performs the same action as a human, but with a greater degree of continuity, control, and efficiency (Zuboff, 1988). Hence, automation increases timeliness and increases quality by ensuring consistency. The gains in efficiency from using automation should be weighed against the costs of using labor. If the efficiency benefits of implementing automation outweigh the upfront cost of purchasing and installing the automation, then automation will increase sales performance. For example, Hill and Swenson (1994) explain that automated order processing is much more cost efficient than using salespeople as the sole conduit of information. Therefore, automation substitutes for higher amounts of sales support but with greater benefits and better cost efficiency. So, automation will increase sales performance when there is enough workload to justify the upfront cost of automation.

> *P1: The higher the workload requirements of a sales activity, the more automation will positively impact sales performance.*

Automation works best when processes are consistent, routine, and rigid (Collins et al., 1999). In order to use automation, it is necessary to create standardized processes and rules for the sales activity. However, when a sales activity is intricate or frequently unique, it may be more advantageous to

decentralize decision-making so that employees can respond faster to customers (Ghoshal, 1987). For example, when serving key accounts, salespeople must frequently customize offering (Jones, et al., 2005); hence, it would not be possible to gain economies of scale from automation. Therefore, when a sales activity requires a higher degree of flexibility, automation will not be efficient.

> *P2: The less that a sales activity must be customized, the more automation will positively impact sales performance.*

Facilitative Technology

Facilitative technologies increase information exchange and enable effective coordination between functions (Mollenkopf, et al., 2000). Enhanced connectivity can link experts to one another allowing them to discuss issues and atypical situations (Widmeir, et al., 2002; Collins, et al., 1999). Facilitative technologies are tools that are meant to make communication between functions easier and more cost effective. This connectivity can help employees coordinate and work together on complex sales activities than would otherwise be exceedingly difficult. For example, if a customer required a rush delivery and the firm used a centralized logistics department, technology-enabled support would allow the sales department to warn the logistics department about the issue and coordinate details. Hence, facilitative technologies help decentralized employees make informed decisions and respond quickly to customers (Collins et al., 1999). Therefore, technology enables the more effective and efficient use of a decentralized sales support structure, which is particularly valuable when customization is required.

> *P3: The more that a sales activity must be customized, the more facilitative technology will positively impact sales performance.*

However, information technology can also lead to information overload (Rouzies, et al., 2005). Frequency of communication often detracts from quality communication (Ellinger, et al., 2000). When the workload of an activity is high, poorly used facilitative technologies will actually decrease efficiency. Instead, firms should turn to more novel solutions which combine facilitative technologies with automation in order to help manage large amounts of communication. For example, Eggert and Serdaroglu (2011) found that sophisticated sales force automation tools were being used by pharmaceutical salespeople to track and analyze prior meetings with salespeople. Hence, when workload is high and when customization is high, neither facilitative technologies nor automation will be effective by themselves.

> *P4: The more that a sales activity requires both a high workload and high customization, a combination of automation and facilitative technology will positively impact sales performance; however, by themselves neither automation nor facilitative technology will positively impact sales performance.*

Technology Users

Salespeople often focus on external goals, such as increasing sales revenue, while support personnel often focus on internal goals, such as controlling costs (Rouzies, et al., 2005; Tellefsen & Eyuboglu, 2002). In the short-term, tasks related to ensuring cost control could decrease sales revenue because unprofitable customers will not be served. For example, salespeople often struggle psychologically with the qualification process because it means avoiding unprofitable leads (Shapiro & Posner, 2006). Hence, salespeople may dislike cost control activities because they conflict with revenue goals. On the other hand, salespeople are often more motivated than other employees to perform revenue generating activities because these directly relate to sales goals. Therefore, salespeople are likely to perform revenue sales activities better than cost control sales activities.

There are many examples of sales technologies automating or facilitating cost control activities. For example, in order to estimate customer credit risk, software can facilitate loan processing by organizing

customer information, while automation software can pull credit reports and calculate risk scores. Similarly, automated systems can coordinate appointments with internal departments and provide some technical support for the salesperson and potential customers. However, technology makes it possible to "game" the system—i.e., overriding the cost control mechanisms in the automated service, for example, by entering misleading parameters into the system. It may not always be desirable to allow salespeople to access to sales technologies meant to control costs, particularly if the system will somehow inhibit the achievement of sales revenue goals. Hence, when sales technology enables cost control sales activities, the sales support technology should be under the control of an external department.

> *P5: When the goal of a sales activity is sales revenue, providing sales support technology to the sales department will increase sales performance more than providing sales technology to a support department.*

> *P6: When the goal of a sales activity is cost control, providing sales support technology to a support department will increase sales performance more than providing sales technology to the sales department.*

MANAGERIAL FRAMEWORK

Based upon our framework, in Figure 2 we provide specific recommendations for deciding which type of technology is best suited for a particular transaction activity. We categorize recommendations based upon 'fit' between sales transaction activity characteristics, sales activity goals, and sales support technology type. For example, when workload is high and customization is low, it is best to use automation, and when sales goals focus on sales revenue, it is best for the technology users to be members of the sales department.

Managers should evaluate each sales transaction activity based on its characteristics (workload and customization) and its goals (sales revenue or cost control). Then using Figure 2, managers can identify which technology, if any, is appropriate and who should use it. To illustrate, new order processing might be time consuming (indicating the workload is high), use standardized forms (indicating that customization is low), and be used to qualify customers (indicating the goal is cost control). Therefore, processing should be automated and the user should be an employee outside of the sales department.

To use these recommendations, managers should examine each sales activity separately. For example, there may be a separate technology for technical support, scheduling appointments, processing orders, preparing financing applications, etc. Additionally, in some cases, firms have multiple channels of distribution with different transaction characteristics. Transaction characteristics in one channel may be different from another channel and, thus decisions about sales support technology should be made independently. For example, a new equipment seller scheduling appointments may benefit from facilitative technology while routine supplies sold from the same firm may benefit from an automated system.

FIGURE 2
RECOMMENDED SALES SUPPORT TECHNOLOGY

Workload	Goals	Customization	
		Low	*High*
Low	*Sales revenue*	No technology needed	Facilitative technology used by sales department
	Cost control	No technology needed	Facilitative technology used by support department
High	*Sales revenue*	Automation used by sales department	Both automation and facilitative technology used by sales department
	Cost control	Automation used by support department	Both automation and facilitative technology used by support department

FUTURE RESEARCH

There are many possible extensions of our framework. First, more work is needed to look at sales support technology in different sales force structures. A growing trend is that salespeople are specializing in certain stages of the selling process (Moncrief & Marshall, 2005). In some cases, it is better for generalists to do all work on a sales transaction, while in other cases it is better to use specialists who divide tasks during the transaction (Pinker & Shumsky, 2000). This is important because it affects the workload of certain sales activities, such as coordination and scheduling, and it may complicate the choice of who is the most appropriate user of a particular technology. For example, if prospecting is handled by a different salesperson than closing, the workload of coordinating selling efforts is higher which, in turn, makes automated technologies for coordinating selling efforts more desirable. Managers would then have to determine which sales specialists should have access to this technology, i.e., the prospector, the closer or both. Future research should examine how sales support technology facilitates different sales force structures.

Second, in this research we have not provided a specific list of what sales support technologies are currently available because the list would quickly become obsolete. However, it might be helpful to provide updated reports on currently available sales support technologies and whether they are automation or facilitative technology. Third, we did not answer the question of when managers should introduce new sales support technologies. Implementing sales support technology is complex because both the sales environment and the technological environment are constantly changing. Therefore, the ideal technology for a sales support activity may change, sometimes frequently. In this framework, we examine sales support characteristics as a "snapshot" in which conditions are stable. More work is needed to incorporate changing conditions into the framework.

CONCLUSION

Our framework is meant to help managers make decisions about what sales support technology is appropriate for a particular sales activity. Automation is not always appropriate. Facilitative technologies are not always appropriate. Our framework rectifies the discrepancy in the existing literature between the assertion that sales force technology should eliminate the need for sales support personnel, and the findings of Moncrief et al. (2006) that sales support still represents approximately 8% of sales positions. Our framework explains how both automation and sales support professionals can co-exist, even within the same firm, depending upon the characteristics of selling transaction activities. We argue that sales support technology has an important impact on performance and deserves further investigation.

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