

Selling Data-Based Value in Business-to-Business Markets

Tuija Rantala, Tiina Apilo, Katariina Palomäki, Katri Valkokari

“This is not an IT project, this is not an HR project, this is a management group’s project.”

Interviewee, advanced in data utilization,
Founder & Chairman of a start-up company

The purpose of this paper is to study what aspects a sales function needs to consider when selling new data-based value in business-to-business (B2B) markets. The paper combines literature on the business-to-business sales process with data-based value. The study includes altogether 29 qualitative interviews from eight companies, representing seller companies at different stages in big data utilization. In addition, the study includes customer perspectives with six interviews from four customer companies. As a result, selling new data-based value is studied from several perspectives. First, we evaluate the impacts of the generated new data-based value from the seller and the market perspective. Secondly, we study what sales representatives need to understand, both from the customer’s perspective, and in relation to data and digital solutions during the sales process. Thirdly, on the customer side, we explore the roles of “digitalist” and old-school buyers, and their effect on the sales process. Our research findings highlight the crucial understanding of customer business and knowledge about real-time data management, digital twins, and artificial intelligence (AI) when selling data-based solutions that create real-time data, recommendations, and value for a customer’s business.

Introduction

“Data utilization” as well as “value-based selling” are phenomena widely discussed among academics and practitioners (for example, Manyika et al., 2014; Gandomi & Heider, 2015; Vargo & Lusch, 2016). Developing innovations that deviate from customary offerings and utilize data in innovations, may be a challenge for companies (Erevelles et al., 2016). Utilizing large amounts of data will lead to several kinds of challenges in business-to-business (B2B) companies (see for example, Erevelles et al., 2016; Chen & Zhang, 2014; Barnaghi et al., 2013). Thus, combining big data and business processes can be an insurmountable problem for the vast of majority of large and medium-sized organizations (Frizzo-Barker et al., 2016). Furthermore, when it comes to commercialization, it is crucial that the customer’s needs are very carefully studied early in the innovation process in order to answer them by means of data analysis. In value-based selling, quantifying value and understanding it from both the seller’s and the buyer’s perspective is important (Töytäri et al., 2011). However, although data utilization and value-based selling are widely studied, previous

studies do not adequately emphasize the sales perspective when selling data-based value in B2B markets.

This paper combines the literature on B2B sales, data-based value, and data utilization. The focus of this paper is to study what aspects need to be considered when selling new B2B data-based innovation. Specific emphasis is on data-based industrial services and their effects on B2B companies’ sales functions. The paper presents practical examples collected from qualitative interviews of what aspects need to be considered when selling new B2B data-based innovations. The paper’s results will help companies in developing their sales strategy and assist salespersons in selling data-based value to customers.

Theoretical Background

B2B Sales in Transformation

Advances in IT and digital channels affect the interactions between B2B buyers and sellers, and, thus, are transforming the field of B2B sales (Paesbrugghe et al., 2016). Digitalization has impacted customer

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behavior by making customers' paths non-linear and complex, having multiple touchpoints, both digital and physical. The classical seven-step sales model (Dubinsky, 1980/1981) cannot be utilized anymore as the basis for selling in the digital era of sales. Changing customer behavior promotes challenges to selling, and the interplay between face-to-face meetings and digital channels requires new management practices. Studies have argued (see for example Hoar, 2015) that the B2B sales function might even become useless in the future. As a result, sales organizations are searching for ways to strengthen their power, which has shifted to buyers.

The selling process takes place at multiple levels and is also non-linear (Dixon & Tanner, 2012). In value-based selling, understanding both the seller's and the buyer's perspectives are important, as well as specifying created value (Töytäri et al., 2011). This requires that both the customer and the salesperson are active participants in two-way communication where the customer's value creation potential is mapped (see for example Vargo & Lusch, 2004).

Yet, the issue of how to consider buyers' perspectives when describing a new sales process has proven to be difficult. Buyers expect value when they meet with seller companies. According to Grönroos and Voima (2013), the buyer's value creation process is not linear, and it does not automatically follow the activities of the seller company. Therefore, it is important to understand all of the perspectives that affect customers' value creation.

New Business Creation in the Digital Age

Because of digitalization, companies will have new kinds of business opportunities and the possibility to get a hold of and utilize increasingly distributed customer knowledge sources (see for example Chesbrough et al., 2014). Data can be seen as a powerful vehicle for new business and value creation. Big data, for example, could help sales, create new business models, products, and services, capture cross- and up-selling opportunities, analyze the level of customer satisfaction, increase transparency, establish dynamic pricing, and assist in understanding performance data and root causes (Manyika et al., 2011; Davenport, 2014; Erevelles et al., 2014).

In addition, sensor data creates value in several ways for value chains in manufacturing. For example, real-time input on emerging defects and production adjustments, as well as improved demand forecasting and supply planning across suppliers, are opportunities that sensor data enables (Manyika et al., 2011). Furthermore,

becoming highly data-driven may promote the identification and development of new products and services, find new customers and markets, as well as increase operational efficiency (Chen & Zhang, 2014).

The new value enabled by data utilization can lead to new innovations, new business areas and thus, to new sales. Utilizing data may mean collaborating with new kinds of companies to create a joint offering. However, companies face several challenges when utilizing large amounts of data (Erevelles et al., 2016), and in collaborating with new actors in the business environment. In this paper, "data-based value" is described as an offering that utilizes data to create value for a customer's business.

Many authors have studied data utilization and big data (see for example Gandomi & Haider, 2015; Frizzo-Barker et al., 2016; Akter et al., 2016). However, most scientific articles on these topics are analytical or theoretical, focusing on, for example, simulations, algorithms, experiments, and/or mathematical modelling techniques (Sivajarah et al., 2017). Yet, there are fewer papers that combine B2B sales with data-based value. This paper focuses on the practical aspects that sales functions need to consider when selling new data-based value in B2B markets.

Selling New Value Created from the Utilization of Big Data By means of the IoT (Internet of Things), billions of wireless devices will soon be connected, and along with it, new business models created (Marr, 2015). Data from various sources and sizes create a new kind of business opportunity for B2B companies (Rantala et al., 2018). This means that sales forces are challenged by data-based innovations, which are opportunities that arise from business model reinvention (for example, new data-based services). Furthermore, there may be a radical shift in what is sold, how selling should take place, and how to make money from it. Moving from products to value-added services, rethinking value propositions, reconfiguring value delivery models, reordering value-chains, or even moving to different markets may lead to challenges for sales forces (Westerman et al., 2014). At the same time, with some of the emerging technologies, salespeople are being pressured to become more efficient in the sales process (Rodrigues et al., 2012; Marshall et al., 2012). Nowadays, it is important to deeply understand the customer's business, as well as the solution that a salesperson is selling. In other words, this means having in-depth knowledge when referring to the continuum of data, information, knowledge, and wisdom (DIKW) (for a

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summary of the roots of the DIKW concept, see, for instance, Hey, 2004).

For many years, the information balance has shifted from salesperson to customer. Customers have the upper hand in negotiations because they are able to study enormous amounts of information available online (Scott, 2014). Thus, it might be more challenging for the salesperson to agree to a face-to-face meeting in the early phases of the customer's buying process (Adamson et al., 2012). This is because the salesperson's capability to influence the customer's buying process, in the early phases of it at least, is significantly challenged. Customers who are regularly in contact with sales representatives are more knowledgeable and demanding, which leads to a situation in which it is difficult to create value for the customer during the sales process.

Big data nevertheless also creates value for the sales forces, as well as increasing agility and opportunities for proactivity in everyday sales work (Agnihotri et al., 2016). For example, customized buying processes for each customer are enabled by means of exploiting big data (Scott, 2014). This refers to a proactive selling approach enabled, for example, by digital customer footprints of, as well as with different open data sources. The capability of gathering, interpreting, and reacting to dynamic, real-time information creates market opportunities. A good example of this is real-time feeds customarily utilized by bond traders. Furthermore, we believe sales forces should utilize predictive analytics in

order to become one step ahead of both their competitors and customers, beyond only spotting real-time information.

From the standpoint of B2B sales, it is important to analyze for whom the actual new data-based value is created. In other words, who utilizes it and is willing to pay for it? This can also be a challenge. Selling data-based innovations is in many cases the same as selling value, instead of traditional transactions (as is the case with data-based services). Value-based selling places a heightened emphasis on the offering's implications for the customer's business, and thus customers might be less open about their actual needs because needs may be complex and have strategic importance to customers' business. Consequently, the benefits of the existing offering are not the primary discussion topic in a value-based sales meeting. Rather, greater emphasis is on understanding the customer's forthcoming business challenges and competitive advantages in order to proactively enhance the customer's success in the future (Terho et al., 2012). Accordingly, communication is a very important aspect of value-based sales (Rantala & Hänti, 2017). This paper focuses on identifying the target customers of data-based value and quantifying the value for customers of new data-based value in B2B markets.

Research Question and Methodology

In this paper, we focus on the sales of data-based innovations with the following as our main research

<i>Case company</i>	<i>Industry</i>	<i>Size</i>	<i>Experience in big data utilization</i>	<i>Number of interviewees</i>
A	Healthcare	Large	Experienced	6
B	Manufacturing	medium-sized	Beginner	3
C	Automation	Large	Experienced	2
D	Manufacturing	Large	Beginner	6
E	Data processing	start-up	Advanced	2
F	Data processing	Large	Advanced	1
G	Advertising	Large	Advanced	5
H	Waste management	Large	Beginner	4

Table 1. Interviewed case companies in Phase 1: the sellers' view

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question for the study: What aspects need to be considered when selling new data-based value in B2B markets?

This paper employs a qualitative case study as its research methodology. The case study was chosen as a method because of its suitability for situations that include multiple variables and complex processes (Yin, 2014). The qualitative data was collected in two phases from 2017–2019, from 35 semi-structured theme interviews with 12 different companies. In the first phase, the focus was on studying the companies' views, and in the second phase, customer perspectives were the primary emphasis.

The seller's perspective was achieved from 29 semi-structured theme interviews with eight different companies from healthcare, manufacturing, energy, waste processing, automation, and data processing industries. The interviews went beyond selling data-based innovation to cover a broad range of themes, such as value for customers, new business creation through big data utilization, understanding the term "big data", contemporary data utilization, advantages of data utilization, and data sources. The following table summarizes the interviewed companies' backgrounds.

The reason for selecting the case companies was that their big data utilization was at different stages, from beginner to advanced levels in big data utilization. Some of the case companies operate both in B2B and in consumer markets, but this research focused only on their B2B relationships. A typical interview took 60–90 minutes, involving one or two interviewers each. Most of the interviews were conducted with one interviewee at a time, audio recorded, generated comprehensive notes, and the audio text was subsequently transcribed.

Five group interviews included from two to three interviewees each. Our study was partly explorative in nature, such that the meanings of concepts required clarifications through discussions with the interviewees. Consequently, the main source of empirical material was comprised of semi-structured theme interviews. In two different workshops, the results of the interviews were tested and discussed with a case company and researcher representatives.

Results

Our results validate that companies need to stay at the forefront of industry developments, as the transition towards more data-driven B2B businesses is now happening, and may continue to take place rapidly. Companies need to make decisions in a more data-driven manner, as well as provide new value to customers based on data utilization. This paper focuses on the matter of selling new data-based value. According to our interview results, a major challenge is to identify customer value and as well as customize each data-based innovation so that it generates value for every customer.

First, let's look at new data-based value sales from the seller and market perspective. Data may promote several different business opportunities, or even create new ecosystems and markets. The research by Valkokari and colleagues (2018) shows that different influences depend on the level of data mining, as well as its impacts on the business processes and ecosystem. Thus, our research findings also show that there are different influences on selling and the market, depending on the level of data mining involved, and its impacts on sales representatives and the market.

<i>Case company</i>	<i>Industry</i>	<i>Size</i>	<i>Experience in big data utilization</i>	<i>Number of interviewees</i>
I	Pulp manufacturing	Large	Experienced	2
B	Energy	medium-sized	Beginner	1
C	Energy	medium-sized	Experienced	1
H	Waste management	medium-sized	Beginner	2

Table 2. Interviewed case companies in phase 2: the customers' view

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If data mining is done on the conventional level, data may change a company's processes or competitive environment.

- When only the seller is impacted by the use of conventional data mining, the customers are usually internal customers.
- When the market is impacted by the use of conventional data mining, customers can be similar to current ones.

On the other hand, the use of disruptive AI systems in the near or not so distant future, may promote a role change in the value chain, or even lead to the emergence of new business ecosystems, thus creating a new trajectory for markets.

- When the seller is impacted by disruptive AI systems, the customers could be, for example, a customer's customers.
- When the market is impacted by disruptive AI systems, the customers could be almost anyone. There can be new kinds of players, the roles of current players may change significantly, the business model can differ radically from current ones, and the way to sell may be totally different compared to now.

Secondly, let's look at the new data-based value itself. When selling data-based industrial services, it is important to listen to the customer very carefully and answer the customer's precise needs. However, selling services may be challenging for a traditional industrial product company in the first place. Thus, when adding "data" to this context, it may be even more difficult. From a sales' perspective, it requires an understanding of data-based value and customer needs on a detailed level. This transforms the voice of a customer into outputs with data-based value, and in the process, answers the customer's precise needs. In addition, timing is a crucially important factor. The seller needs to recognize a customer's needs, including their hidden needs, as well as the moment when the customer is willing to transition to being more data-driven. Figure 2 shows a framework created by the authors based on the interview data. It illustrates learning and path dependence, as both seller and customer learn, within an organization in the case of data-based services, that focus on operation optimization. From the salesperson viewpoint, it means needing to increase simultaneously one's own understanding of a customer's business and possibilities, which value-adding data services can offer the customer.

The goal of the salesperson is to find the most suitable and cost-effective solution that brings all available sales knowledge and understanding based on data analyses



Figure 1. Business impacts of data-based new innovation (modified from Valkokari et al., 2018)

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Level of needed customer understanding

Customer's business – <i>Market insight, business drivers</i>			<ul style="list-style-type: none"> •Real-time data and recommendations for developing customer's business in the future •Decision-making assistant / dashboard 	
Customer's process – <i>E.g., production line know how</i>		<ul style="list-style-type: none"> •System monitoring for preventing unplanned shutdown 	<ul style="list-style-type: none"> •Remote operating services •System remote monitoring •Real-time data and implications for predictive condition-based maintenance planning of production line 	
Customer's sub process – <i>Equipment & process know how</i>	<ul style="list-style-type: none"> •Up-to-date manuals and training materials for use and maintenance •Guided display 	<ul style="list-style-type: none"> •Customer up-to-date digital repository with possibilities to run operation data snapshot •Equipment monitoring for preventing unplanned shutdown •Recommended spare parts to order 	<ul style="list-style-type: none"> •Remote monitoring failures •Real-time data for predictive condition-based maintenance planning •Automated spare parts order 	
	<p>Light - Data about digital features and incremental development in general</p>	<p>Mediate - Information about data-based solution, data utilization and working principles</p>	<p>Deep - Knowledge about real-time data management, digital twins and AI</p>	<p><i>Level of needed data-based solution understanding</i></p>

Figure 2. Example of data-based services for optimising an industrial company's operations

to the customer, in order to create substantial value for the salesperson, the customer, and the related network. A new data-based innovation needs to be divided into smaller pieces when formulating value for the customer. If we think, for example, about industrial services for optimizing operation, from the customer perspective, the data-based service is one part of the offering. The offer for optimizing operations may also include a suitable combo of condition inspections, digital manuals, user guidance videos, remote support, and analyses for operation optimization. The value for the customer should be identifiable in all of these aspects.

In summary, if the customer is not used to buying, for example, operation optimization services, then the service needs to be divided into small pieces in order to see what kind of unities (the related data, presence, etc.) and values for the customer can be better clarified. In the same way, it could be, for example, that a customer

needs to develop their personnel's know-how, or get assistance through data with analysing the fault situation. The same challenges exist in other kinds of services as well.

Thirdly, here we look at the B2B customer. Customers are knowledgeable and demanding during the sales process, and hence, value creation for the customer may be difficult. B2B buyers can be both digitalists and old-school shoppers (Alhonen et al., 2018). The digitalist buyer is used to digital tools and utilizes them fluently in their work. The digitalist buyer's buying process starts earlier, as they get influences while surfing online. On the other hand, the old-school buyer prefers traditional methods (for example, phone calls, emails and in-person visits) when communicating with the seller during the sales process. However, in some cases, company business codes of may hinder a digitalist buyer from being able to act as a digitalist. According to our interview results, both kinds of buyers exist in

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customer companies. Which kinds of B2B buyers a company uses may affect the ability of the buyer to adapt to the value of a new data-based innovation.

Discussion

Our research results are in line with Chen and Zhang (2014), who argue that most companies consider it beneficial to become highly data-driven. According to our study, companies think that data facilitates creating new services, finding new markets and customers, and increasing overall efficiency. In addition, our findings are in line with Chesbrough and colleagues (2014), such that companies are aware that they need to co-operate with new kinds of companies as partners in order to develop data-based value. However, our research results highlight that there are several challenges to utilizing large amounts of data. In this sense, they are in line with the results of Erevelles and colleagues (2016). Especially companies that are beginners in data utilization face several challenges, such as lack of know-how and expertise, and insufficient resources to learn at the required pace. Identifying the data's core, its most valuable information, is considered difficult.

Data-based services raise the discussion about what is sold and how, as well as how to make money and find customers willing to pay. According to our results, this is challenging for the sales function (Westerman et al., 2014), as well as R&D functions. Based on our interviews, customers now know and demand more than they did before, and therefore creating value for demanding customers may be difficult. Our results highlight that customers' businesses and processes need to be understood very well, when it comes to how their data is utilized. Further, their forthcoming challenges and advantages need to be recognized in order to create value. These viewpoints are in line with Terho and co-authors (2012).

When forming a sales strategy that takes data-based value into consideration, determining who to sell to and with which kind of arguments is important. The value of a data-based innovation may be different for different employees in the customer company. In addition, it may be beneficial to create criteria for identifying which type of customer company and buyer is in question. This may help the salesperson who is trying to find the right pitch and arguments.

Conclusions

Many companies are interested in developing data-based value. However, utilizing large amounts of data, being more data-driven as well as selling the data to customers, also brings out new challenges. In this study, we sought answers to the question: What aspects need to be considered when selling new data-based value in B2B markets?

The question was addressed with the help of 35 qualitative interviews from a total of eight seller companies and four customer companies at different stages of data utilization.

The paper approached "selling data-based value" from several perspectives: the seller and market perspective, the creative data-based value and needed understanding perspective, and a buyer's perspective. The paper presented a framework for understanding data-based value sales and knowledge needed in relation to the customer, data-based solutions and technologies. Our research findings highlight that understanding a customer's perspectives, values, and needs early in the innovation process is especially important.

In the literature, empirical findings on data-based value are primarily focused on big data analytics or analysing consumer data. There are only a few papers combining B2B sales, data-based value, and data utilization. This paper thus opens a new theme and provides practical viewpoints for selling data-driven value on B2B markets.

The paper is intended to help practitioners benchmark company practices, enabling them to offer feedback to managers for successfully developing their B2B sales functions in practice. This paper may also help information-oriented researchers see the value of recent advances in the utilization of data, by applying new innovations in a broader context, including B2B sales and management perspectives.

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