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Collaborative intelligence: How human and artificial intelligence create value along the B2B sales funnel

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Abstract The B2B sales process is undergoing substantial transformations fueled by advances in information and communications technology, specifically in artificial intelligence (AI). The premise of AI is to turn vast amounts of data into information for superior knowledge creation and knowledge management in B2B sales. In doing so, AI can significantly alter the traditional human-centric sales process. In this article, we describe how AI affects the B2B sales funnel. For each stage of the funnel, we describe key sales tasks, explain the specific contributions AI can bring, and clarify the role humans play. We also outline managerial considerations to maximize the contributions from AI and people in the context of B2B sales.

> "And when I saw that, I realized that selling was the greatest career a man could want. 'Cause what could be more satisfying than to be able to go, at the age of 84, into 20 or 30 different cities, and pick up a phone, and be remembered and loved and helped by so many different people?"
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> —Willy Loman, Act II, in Arthur Miller's *Death of a Salesman*'

1. Can AI contribute to sales performance?

B2B sales managers have always been concerned with serving their clients at every stage of the

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sales process. However, much has changed since the days of stereotypical salesperson Willy Loman, the protagonist in Arthur Miller's 1949 play *Death of a Salesman*. As the opening quote reveals, Loman's travels took him to many cities in which he could rely on personal, emotional, and professional connections with his clients. In the process, Loman and his fellow salespeople mainly relied on manual, analog technologies (e.g., maps, landline telephones) to enable their B2B sales.

The launch of the world's first mobile telephone certainly seems—and was—a long time ago. Many technological innovations have shaped B2B sales since, especially profound advances in information and communications technology (Morkunas, Paschen, & Boon, 2019; Paschen, Pitt, & Kietzmann, 2019), digitization, and artificial intelligence (AI) (Gupta, Keen, Shah, Verdier, & Walutowy, 2017; Syam & Sharma, 2018). In particular, AI systems—defined as information systems that act intelligently (Russell, 1997; Russell & Norvig, 2016)—are substantially different than technological advancements of the past (Kietzmann, Paschen, & Treen, 2018). While previous technological innovations, including the advent of the telephone, computers, or the internet, helped with collecting, aggregating, processing, or communicating data (Paschen, Pitt, & Kietzmann, 2020), decision making always rested with humans. Today, emerging technologies such as AI can significantly alter the interactions between humans and machines (Marr, 2016), enabling computers to solve problems with minimal or no human intervention (Syam & Sharma, 2018).

The B2B sales field is not immune to the fundamental changes brought about by AI. In fact, the B2B sector shows a growing interest in AI (Martínez-López & Casillas, 2013; Paschen, Kietzmann, & Kietzmann, 2019; Singh et al., 2019; Syam & Sharma, 2018). A recent survey of more than 1,400 B2B marketing executives conducted by *MIT Technology Review* and Google revealed that professional services rank among the top sectors to embrace AI (MIT Technology Review Insights, 2018). AI can help B2B companies translate vast amounts of data into information and, ultimately, knowledge in order to develop effective sales strategies and tactics. This has been a difficult undertaking for B2B due to rapidly changing customer preferences, a longer sales process with multiple influencers making buying decisions, and changes in the market that occur more frequently and rapidly (Cotter, Guan, Mahdavian, Razzaq, & Schneider, 2018; Ingram, 2004). In successfully responding to these market- and technology-driven changes, B2B sales organizations must become true knowledge organizations (Ingram, 2004). Superior knowledge about their market—customers, users, competitors, and other market entities (Abrell, Pihlajamaa, Kanto, vom Brocke, & Uebernickel, 2016; Kohli & Jaworski, 1990; Slater & Narver, 1995)—can help B2B sales organizations create a sustainable competitive advantage. Here, AI is expected to bring advanced information quality and quantity by which B2B firms can improve personalization, customization, and data management (EverString, 2018).

However, there appears to be a discrepancy between marketers' enthusiasm for AI's potential and their knowledge of AI and how to utilize it (Campbell, Sands, Ferraro, Tsao, & Mavrommatis, 2020; EverString, 2018). Understandably, marketers are thus hesitant to incorporate AI into their marketing strategies and tactics. While it is clear that AI is poised to change the B2B sales process, there is little guidance on the specific contributions AI can bring to each stage of the traditional human-centric process, and what type of changes AI will bring to human contributions. This lack of managerial guidance is problematic (Kietzmann & Pitt, 2020). Moreover, scholars have recently recognized the need to further our understanding of the role of AI in B2B sales, calling for scholarly work in this area (see Martínez-López & Casillas, 2013; Singh et al., 2019; Syam & Sharma, 2018). In this article, we respond to this call for more research by explicating how AI changes the B2B sales process. Specifically, we rely on a seven-step sales process that has been used extensively in existing research and applies to most sales situations (Dubinsky, 1981; Homburg, Müller, & Klarmann, 2011). For each step of the process, also known as the sales funnel (Syam & Sharma, 2018), we describe key sales tasks and explain how AI adds value. In addition, we clarify the role that human contributions and human decision making play at each step of the AI-enabled sales funnel.

In this article, we provide a brief overview of AI systems and explain what contributions AI and people can bring to each stage of sales funnel. We close with an outline of seven managerial considerations to maximize the contributions from AI and people in the context of B2B sales.

2. Foundations of AI

AI could be a misleading term as it suggests the possibility that computers display human-like intelligence (Kaplan & Haenlein, 2019; Russell &

Norvig, 2016). This is not the case. Rather, today's AI systems are information systems that act rationally given what they know. In other words, the performance of an AI system is not measured in terms of its conformity to human intelligence, but rather in terms of an ideal performance called rationality (Gershman, Horvitz, & Tenenbaum, 2015; Paschen et al., 2019; Russell, 1997; Russell & Norvig, 2016; Tecuci, 2012). An AI system is intelligent if it does the 'right thing' given what it knows; AI systems thus solve problems to achieve the best outcome or, in the case of uncertainty, the best expected outcome. Our definition of AI in this article departs from the notion often adopted in the popular media by which AI emulates human intelligence; we conceptualize AI as information systems that act rationally based on the information available to them in order to solve problems.

While there is a large number of AI applications across many industries, all AI systems can be explained using a common input-process-output model: AI information systems require data from their environment (inputs), manipulate such data in value-creating ways (processes), and feed information (outputs) back to the environment (Paschen et al., 2019). We explain each of these three components—inputs, processes, and outputs—briefly below.

2.1. Inputs

An AI information system requires data from its environment to feed its input-process-output transformation. Data are values, describing an item or a person with respect to its qualitative or quantitative variables, but only when data are analyzed and processed can they become useful for decision making (Bellinger, Castro, & Mills, 2004). For AI, data inputs come in two forms: *structured data* encompasses standardized datasets in numerical form—such as demographics, web clicks, or transaction records—while *unstructured data* is non-numerical and multifaceted in the form of text, audio, or images (e.g., comments, likes, reviews, inquiries, photos, videos). An estimated 80% of today's data are unstructured (Rizkallah, 2017) and they are growing 15 times faster than structured data (Nair & Narayanan, 2012).

2.2. Processes

With their enormous computing power, AI systems can process large amounts of structured data very efficiently, but it is their ability to process unstructured data in value-creating ways that distinguishes them from traditional information systems. AI uses *natural language understanding* to analyze and assign meaning to human language in spoken and written form (Paschen et al., 2019; Syam & Sharma, 2018). For example, AI systems can extract themes, keywords, sentiments, or emotions from a piece of text, allowing marketers to paint a clearer picture of their customers' profiles, needs, and behaviors. AI systems can also process nonverbal unstructured data; for example, *computer vision* recognizes patterns and makes sense of still images, facial cues, or gestures (Forsyth & Ponce, 2011; Paschen et al., 2019).

Natural language understanding and computer vision are two important preprocessing steps. These steps transform data via normalization, feature extraction, and selection. The resulting data can then be further processed in value-creating ways by AI's three main processes (Paschen et al., 2019): *problem solving*, *reasoning*, and *machine learning* (ML). Problem solving and reasoning define the problem AI should solve and how to approach the analysis. These processes result in the all-important identification of patterns and conclusions from the data being analyzed. For example, marketers may want to identify prospects (i.e., the problem to be solved) using a segmentation model based on customer's web browsing history, e-mail, and telephone inquiries and demographics (i.e., reasoning or how to approach the analysis).

ML is an integral part of AI processes. If the foundation of AI information systems is to act rationally based on existing data and information, then they need to be able to learn from past attempts. This is the essence of the third main process, ML, which encompasses computational procedures that enable AI systems to learn from experience. ML enables AI progressively to improve its performance without being explicitly programmed by humans to do so (Paschen et al., 2019; Russell & Norvig, 2016; Tecuci, 2012) as the information system stores previous data, problem solving, and reasoning processes and outcomes in its knowledge base.

There are three types of ML: *supervised ML*, *unsupervised ML*, and *reinforcement learning*. With supervised ML, the AI system is given training data sets, including the inputs and the correct outputs (i.e., correct answers) from which the computer learns patterns and develops rules to be applied to future instances of the same problem. For example, marketers wanting to predict customer churn may collect past examples of the same problem and identify characteristics common across customers who left for the

competition. The AI system would then use these training datasets showing the correct inputs and correct outputs to learn the pattern and apply to future instances of the same task (e.g., predicting customer churn among its current client base). With unsupervised ML, the computer is using training data that are not labeled with the correct answers. Its task is to identify patterns or relationships between the data points. For example, unsupervised learning can be used to identify products that are ordered together. To be effective, both supervised and unsupervised approaches require substantial amounts of data (i.e., big data) and high computing power that today is relatively accessible (Syam & Sharma, 2018). Finally, in reinforcement learning, an AI system learns from its own experience. It differs from supervised learning in that the correct input/output pairs need not be presented. Instead, the focus is finding a balance between exploration of uncharted data territory and exploitation of current knowledge based on past experiences (Kaelbling, Littman, & Moore, 1996).

2.3. Outputs

The remaining component of an AI system is outputs, the information resulting from the above value-creating processes that feeds into various business applications (Paschen et al., 2019; Tecuci, 2012). In its basic form, an AI system may produce information as simple as a list of topics frequently mentioned in news articles about a competitor. This information may then require further actions by human decision makers such as analysts using AI-generated information about a competitor to create sales battlecards. In addition, some AI systems act independently of human input. Consider how chatbots respond to customer inquiries, or how an AI system using natural language generation can create ad copy or news reports.

3. The AI-enabled B2B sales funnel

In Section 2, we provided a summary of the foundational building blocks by which to explicate any AI system. Now we turn to how the use of different AI building blocks changes the traditional human-centered B2B sales process. Indeed, at the heart of our argument lies the idea that combinations of different building blocks and the resulting AI applications lead to different opportunities for value creation during the B2B sales process. Specifically, we explain the specific value-add contributions AI systems can make at each stage of the sales process, in addition to clarifying how and where human contributions add value to the AI-enabled sales process (see Table 1). To do this, we rely on the seven stages of the B2B sales process:

1. Prospecting;
2. Pre-approach;
3. Approach;
4. Presentation;
5. Overcoming objections;
6. Close; and
7. Follow-up.

This model of the sales process is applicable to most B2B sales situations (Sheth & Sharma, 2008; Syam & Sharma, 2018). It has been extensively used in previous research (Homburg et al., 2011; Järvinen & Taiminen, 2016) and traditionally has been referred to as the sales funnel. More recent studies suggest that, especially in the early stages, the marketing and sales functions of B2B firms are highly integrated, thus calling for a conceptualization that includes both marketing and sales tasks (Järvinen & Taiminen, 2016; Syam & Sharma, 2018). In line with this view, while we use the term sales funnel we also discuss marketing tasks as they apply to different stages of the sales funnel.

3.1. Prospecting

The first task in prospecting—also known as lead generation—is finding potential customers, which aligns with the traditional segmentation task in marketing (Järvinen & Taiminen, 2016; Syam & Sharma, 2018). For example, a prospect could provide his/her contact information as part of a sales inquiry on a company's website, via phone, or while accessing digital content. In addition, a prospect's web browsing and web search history can provide valuable information for managers about potential leads and their interests.

Next, firms will narrow the pool of prospects to the ones that are likely to buy. This is the goal of prospect scoring, the second task in prospecting, which evaluates whether the potential customer can buy the firm's offerings and how likely is it that he/she will buy? The goal of scoring is to identify high-quality leads (i.e., prospects that offer a high

Table 1. Artificial and human intelligence for value creation in B2B sales

Stage of the B2B Marketing and Sales Funnel	Traditional Marketing and Sales Task	AI Value-Add to Traditional Marketing and Sales Task	Human Value-Add to AI-enabled Marketing and Sales Task
(1) Prospecting	• Lead generation: Finding potential customers • Lead qualification: Evaluating prospects' propensity to buy	• Build rich prospect profiles (structured and unstructured data) • Predictive lead qualification • Update lead generation and lead qualification models via ML	• Interpret prospect lists and explain inconsistencies • Verify lead qualification and put into a business context
(2) Pre-approach and (3) Approach	• Lead Nurturing: Acquiring more information about leads and making contact	• Ad targeting and retargeting: Personalized and customized communication messages and channel • Content curation • Making contact via digital agents (e.g., chatbots)	• Monitor ad targeting, retargeting, and content curation • Take over from or delegate to AI-digital agents during contact
(4) Presentation	• Communicating the problem-solving characteristics of the offering (e.g., prototype, use cases, simulation)	• AI-enabled prototyping • Emotion AI	• Build rapport, trust, and credibility • Address questions in person • Interpret emotions and respond effectively
(5) Overcoming objections and (6) Closing	• Negotiating sale and overcoming objections	• Curate competitive intelligence (e.g., for sales battlecards) • Dynamic pricing	• Communicate product benefits • Build rapport, trust, and credibility • Interpret emotions and respond effectively • Persuasive communication
(7) Follow-up	• Fulfilling the current order • Follow up beyond the current order • Upsell, cross-sell	• Automate workflows • Automate post-order service (e.g., chatbots) • Build rich customer profiles (structured and unstructured data) to uncover new needs	• Oversee order processing and fulfillment • Strengthening exchange relationship • Personal post-service follow-up • Interpret new needs and explain inconsistencies

probability of profitable sales). Prospect scoring, also known as lead qualification, is a challenging task that requires substantial human resources (Järvinen & Taiminen, 2016) because of the difficulties in identifying the characteristics of high-quality prospects. Even when a firm is able to identify these characteristics, this information often becomes available only after a sales professional has made contact with a potential client, thus limiting its proactivity.

AI promises to benefit both of these key tasks at the prospecting stage by undertaking activities that previously relied heavily on sales professionals and their support teams. First, AI is well suited to analyze both structured and unstructured data used in segmenting consumers and generating lists of prospects. For example, natural language understanding can analyze text data (e.g., email inquiries, social media posts, news releases) and identify keywords, themes, or current interests from the text. AI's capabilities are not limited to written content; rather, AI systems can also analyze speech or image data originating from photos, videos, or conversations. This, combined with AI's capability to analyze vast amounts of structured data (e.g., web traffic and clicks) in addition to offline structured data (e.g., tenure and role in the client organization), can be used to create a well-rounded profile of prospects. In addition, ML is increasing the efficacy of these segmentation algorithms by updating and improving their performance without humans reprogramming them (Syam & Sharma, 2018).

Second, AI is capable of developing and applying predictive algorithms to engage in lead scoring. AI systems can analyze previous prospect data and determine what actual online and offline characteristics have the highest probability of resulting in conversions (Syam & Sharma, 2018). Through ML, these predictive algorithms then can be used to create new prospect lists. In addition, natural language understanding enables computers to identify sentiment and keywords in consumers' text or speech to predict the probability that these prospects will purchase. Finally, ML allows AI continuously to update the rules for generating and scoring leads, storing this information in the AI knowledge base to allow for continual improvement. Dell uses AI-enabled analytics to identify the types of prospect behavior most likely to lead to the purchase of different products, thus helping its sales force to pinpoint high-quality leads (King, 2012). It has resulted in a substantial increase in the productivity of Dell's sales force as well as the efficiency of its sales.

AI's significant contributions to the prospecting stage also create new opportunities for sales professionals to change their value-add contributions. While AI may be implemented to take charge of identifying and evaluating leads, human judgment is necessary in order to interpret and filter the AI-generated information. Specifically, one key task of sales professionals is to interpret AI-enabled prospect lists. While potential buyers may tick all the boxes on finding and qualifying prospects, sales professionals will need rely on their experience and intuition to check for inconsistencies and put the AI-generated information into their specific business context. They will need to determine whether the prospect has a specific need that the business can actually satisfy, whether it is economically feasible and whether it is operationally achievable for the prospect to implement the firm's specific offering. These judgments often tap into sales peoples' tacit knowledge, experience, and intuition—areas that AI is currently not capable of accessing or analyzing.

3.2. Pre-approach and approach

A prospect that has been identified and positively evaluated as a quality lead moves on to the next two stages: pre-approach and approach. These two stages typically have been examined together in sales research and some suggest that these two stages are merging (Syam & Sharma, 2018). Pre-approach and approach mean acquiring more detailed information about leads, including their needs, habits, preferences, and other relevant background information and then making contact. They include conducting more research about the prospective buyer and providing customized and personalized content related to a prospect's interests—a tactic that is referred to as *lead nurturing*. While pre-approach is the doing-your-homework part of the sales process, the approach stage is about building relationships, with sellers aiming to establish rapport and build trust with potential buyers in addition to gaining more insight into whether and how a lead could benefit from a firm's offering.

AI influences the pre-approach and approach stages of the sales funnel in several ways. First, AI can automate some of the routine tasks around making contact, such as scheduling meetings or sending follow-up emails. This frees up sales professionals and allows them to spend time and energy on other value-add contributions.

Second, AI enables the creation and delivery of highly tailored and personalized communications to sales leads based on an analysis of the lead's behavior or profile. This is known as targeted

advertising. Targeted advertising can take a number of forms, including retargeting in which AI can discern the content that is likely to appeal to a lead based on previously consumed content. Ideally, these tailored approaches will lead to greater engagement and ultimately conversions along the B2B sales funnel. AI can also be used to curate promotional content. AI tools can be used to help discover similarities in the characteristics of top-ranking content. AI is sophisticated enough to offer real-time recommendations on how to improve content, what the best delivery vehicle might be, and the overall format of the communication. These types of targeted advertising are a more effective way to pre-approach or approach sales. For example, ServiceMax, a provider of field-technician management software for equipment and infrastructure businesses, is using ML to predict the best customer journey for its site visitors. By showing prospects recommendations and snippets for the next webpage they should visit, ServiceMax decreased bounce rates to its site by 70%, doubled the time visitors spent on their site, and substantially increased requests for product demos (Fleming, 2019).

Finally, AI can automate contact through chatbots (i.e., a computer program that can engage in a conversation with a person). Sophisticated intelligent agents already make contact with leads, answer frequently asked questions, and refer individuals to sales professionals as needed.

For all of these AI-enabled tools, sales professionals will be needed to monitor the advertisement targeting, retargeting, and content curation completed by AI and engage in a personal interaction with the prospect at the appropriate time. For example, sales platform firm 6sense offers a service built on AI, ML, and predictive analytics. It provides visibility for B2B marketing and sales professionals into the buying journey of prospects and flags a window of opportunity, indicating when it is most effective for salespeople to engage with the prospect. In addition to monitoring AI results, sales professionals may also need to take over from chatbots or delegate work that emerges through chatbot interactions in order to push potential sales further along the funnel.

3.3. Presentation

At the presentation stage, the selling firm demonstrates the problem-solving characteristics of the offering and also designs the offer specific to the potential client's needs, which often includes providing a prototype of the product or solution being offered (Syam & Sharma, 2018). A well-prepared presentation should keep the audience in mind—what they want and do not want—and be clear and concise in tone and content.

AI is capable of supporting major elements of the presentation stage. AI-assisted prototyping already exists, whereby the AI algorithm takes ideas from the drawing board and turns them into actual products almost instantaneously (Mix, 2017). The AI system used by Airbnb, for instance, is trained to recognize the company's standard hand-drawn design sketches and render them into actual computer programming code. The automation of these tasks allows sales professionals to deliver tailored prototypes much faster than what was possible traditionally.

In addition, AI systems can augment the presentation task. Slide bots (i.e., AI systems that analyze existing presentation content) identify the main ideas and messages and subsequently recommend and execute on the optimal layout and content. These bots can help sales professionals deliver more compelling presentation materials. Natural language understanding, computer vision, and speech recognition—in combination with ML algorithms—can recognize verbal or nonverbal cues in communication patterns of the presenter or audience. For example, AI systems can run a sentiment analysis on a presenter's words, voice, and tone and compare the result against desired norms, thus providing instantaneous feedback on a sales presentation. Moreover, AI can be used to analyze the emotions of the audience to determine sentiment or themes that can render useful insights about potential concerns or objections from customers.

Although AI can be used to cover many tasks within the sales presentation phase, several remain with sales professionals. First, sales professionals must continue to build rapport with potential and current clients. As in all stages of the sales funnel, a personal touch is important to build trust and credibility, and sales professionals are needed to address any potential ambiguity. In addition, while AI may automate layout and formatting tasks in creating presentation decks, sales professionals will need to put the final touch on these materials before implementing them in the presentation stage.

3.4. Overcoming objections and closing

At any point during a sales presentation—in fact, at any stage of the sales process—a potential customer may object to one or more of the points made by the selling firm. These objections can come in the form of questions, statements

indicating disagreement, or even nonverbal expressions such as facial expressions or body language that may indicate a customer's unwillingness to buy. Potential clients may raise questions about the selling company, delivery method, the competition, or the price, product, or service itself. A key task for sales professionals at this stage is to manage customer objections by becoming aware of the underlying reasons so that the selling company can close the deal.

AI changes the tasks involved in overcoming objections and enables sales professionals to respond to the concerns faster, with more up-to-date and more comprehensive information via tools such as AI-enabled battlecards. Specifically, the abilities of AI systems to analyze structured and unstructured data can be used to strengthen a firm's own value proposition and depose competitors. The startup Klue offers an AI service based on natural language understanding and ML to curate competitive intelligence for B2B personal selling and sales management. This up-to-date information is summarized in battlecards that sales professionals can use to oust competitors or handle questions raised by clients. AI also influences the negotiation stage with dynamic pricing. Algorithms analyze historical data about pricing variables along with other information about leads to determine the best prices for different potential buyers. Industrial manufacturing companies like Siemens or Honeywell leverage an AI-enabled pricing solution by Vendavo to manage price differentiation during their sales process.

For less complex products, AI systems are able to take over some of the tasks in the closing stage, such as chatbots answering common questions. However, more complex and personalized offerings require the closing stage to see the most sales representative involvement. At this stage, sales professionals still heavily rely on interpersonal relationship skills such as building trust and engaging in persuasive communication. In addition, perceiving client cues—both verbal and nonverbal—is an important task that is best suited to a sales professional. Despite AI's ability to analyze emotion in some contexts, sales professionals are needed to interpret AI-generated analyses of emotions and use their discretion in adjusting closing approaches based on the information from AI systems as well as from their own observations.

3.5. Follow-up

Follow-up involves two different components: filling the current order and following up after the order is completed. Filling the current order broadly comprises recording the order, initiating order processing, inventory management, and order fulfillment via supply chain and procurement systems. Following up after the completion of the initial order involves uncovering new needs the client may have, which may result in the customer entering the sales funnel again. In addition, there may be upsell or cross-sell opportunities during the follow-up stage. *Upselling* is encouraging the purchase of anything that would make the primary purchase more expensive (e.g., an upgrade, add-on or premium product), and *cross-selling* encourages the purchase of anything in conjunction with the primary product.

AI can contribute to this stage of the sales funnel in a number of ways. First, AI can automate the workflows required for order processing and the follow-up. This could include automated paperwork, inventory management, and supply chain management and allows sales professionals to be free from repetitive and time-consuming tasks. Second, with specific regard to the follow-up of the order, AI can be used to automate some elements of the post-order service. Chatbots can be used to initiate communication with the client and begin discussing with customers about their experience and future needs. Finally, AI analysis of both structured and unstructured buyer data (e.g., behavioral information) can be undertaken in order to uncover new needs and to re-enter the funnel at stage one. Finding patterns in past purchase behaviors using ML, firms can identify which products often are bought together and display the complementary product to a customer, increasing the overall size of purchase and improving the customer experience. The Hyatt Hotels Group uses ML to improve cross- and up-selling to its customers, resulting in a 60% increase in average incremental room revenue (Diaz, 2017). By identifying patterns based on guest history and past behaviors and comparing these to guests with similar profiles, Hyatt is able to identify guests that are likely to upgrade their room or may be interested in the hotels' amenities.

The role of sales professionals in the follow-up stage includes overseeing order processing and fulfillment to ensure orders are processed accurately and in a timely fashion. In addition, sales professionals must continue to strengthen relationships with clients through personalized follow-up communications. AI can provide more detailed information than a sales professional might be able to gather on their own, but sales professionals remain uniquely and solely situated to connect with clients on a personal level. Using

the detailed information that AI can provide and integrating this information with their personal experience and knowledge, sales professionals have a fine-tuned understanding of client needs and can integrate this knowledge into their follow-up strategies. In particular, using this detailed information can help sales professionals to identify inconsistencies and to interpret and anticipate new client needs, ultimately strengthening the client relationship.

4. Managerial considerations for maximizing collaborative intelligence

The potential for combining AI and human intelligence to maximize value throughout the B2B sales funnel is significant. The importance of employing highly skilled sales professionals remains high, yet there is potential for added value in the use of AI throughout all stages of the sales process. In this section, we provide guidance for managers to maximize value from human intelligence and AI in B2B sales. These managerial considerations are intended to help managers understand some of the critical issues they may face when integrating AI into their sales process.

4.1. Training is essential

Managers must train both sales professionals and support staff to use AI and interpreting AI-generated information. One broad trend throughout all stages of the AI-enabled sales funnel is that AI can help create, organize, and even use a wealth of information, but it is up to humans to check this information for weird output or inconsistencies. It is necessary to train salespeople and staff so they can correctly interpret the output of AI and identify information that does not align with the specific business context. Moreover, as the AI output is contingent upon the input and training data (particularly in the case of supervised ML algorithms), sales professionals need to be aware of the limitations with these training data or inputs. Indeed, employees will need to develop new skills in order to extract value from AI systems (Kaplan & Haenlein, 2019), and training will be essential in helping employees adapt.

4.2. Link AI to enterprise knowledge management strategies and tactics

Researchers suggest that knowledge management is a process by which firms create value from intangible assets such as information quality and quantity (Archer-Brown & Kietzmann, 2018). An important step in knowledge management is in making these assets tangible and accessible for managerial decision making. AI is a key enabler to making intangible assets accessible by capturing, organizing, and sharing information. To maximize the benefits, managers should integrate AI-enabled knowledge management activities with a B2B firm's enterprise knowledge management strategies and tactics.

4.3. Leave insights and social/emotional tasks to human intelligence

AI systems can analyze big data, particularly unstructured data, often in real-time and transform these data pieces into useful information. However, it is human intelligence that is critical in deriving the implications of the AI analysis and translating AI information into knowledge. Answering the 'so what' question and deciding on an appropriate course of action is a task for which human intelligence outperforms AI. Human reasoning is able to make use of a wide context of human experiences, backgrounds, and skills and bring this to bear in solving business problems; in contrast, AI systems typically have a very narrow focus. In addition, AI systems are limited in displaying emotional or social competencies themselves (Canhoto & Clear, 2020; Kaplan & Haenlein, 2019). However, these social and emotional competencies are particularly important in B2B sales and will continue to be critical tasks performed by humans in the AI-enabled sales funnel.

4.4. Support customers through the transition

Similar to achieving employee buy-in on the importance and role of AI in the sales process, managers need to acknowledge and prepare for the transition customers will go through. AI will change the customer experience, and customers will need to be brought up to speed in order to help them embrace the AI-enabled sales funnel. Managers should ensure that customers do not perceive AI as a way companies to do less for them, but rather as a way for firms to provide customers with better offerings and more effective sales interactions than ever before. Some customers may be unwilling to embrace this transition or distrust AI-enabled tasks. In these situations, managers must identify these hesitant customers and then possibly take a traditional approach to serving them.

4.5. Expect resistance

Many of the employees involved in the sales process will be hesitant to embrace AI over concerns that AI will make their roles obsolete or simply because they are resistant to change. In either case, those in positions of leadership must follow best practices for change management (Seijts & Gandz, 2018) in order to smooth the transition to an AI-enabled sales funnel. In particular, managers must approach change management with an eye to managing rapid change via digitization (Crittenden, Crittenden, & Crittenden, 2019). One point leadership can make clear is that personal, human contributions remain a critical need in the sales process. Indeed, it would be incorrect to assume that the need for personal touches will become less important in an AI-enabled world. It may very well become more important to clients that there is a personal connection, and reiterating this point to hesitant employees may be important.

4.6. Information security is paramount

As more information is collected, stored, and relied upon, information security becomes increasingly important (Santanen, 2019). Managers should revisit their information security practices to ensure that this valuable resource—and their clients' privacy—is protected. One of the key premises of AI is to paint more well-rounded profiles of customers by identifying and analyzing customer behavior across multiple devices and many situations. This means that even if one's personal data is anonymized once they become part of AI's input processes, an AI system could de-anonymize this data based on inferences from other devices. This blurs the distinction between identifiable and unidentifiable data and poses challenges for firms to adhere to legislated privacy requirements.

4.7. Build a sales force structure and processes supportive of AI

Traditionally, salespeople relied heavily on support staff such as sales enablement staff, sales assistants, or marketing research specialists for gathering and curating information about customers, competitors, or other market forces. AI's ability to analyze vast amounts of data and develop and adjust segmentation or pricing models in near-real-time may change the structure and organizational processes of these sales-related functions (Singh et al., 2019). Managers need to consider the potential impact of AI on their departmental and organizational structure and devise processes that allow AI to be integrated into organizational workflows and practices.

5. AI will enhance, not replace

AI is poised to set off a series of fundamental changes to the B2B sales process. These profound changes will affect the nature of human work, specifically human intelligence and decision making (Syam & Sharma, 2018). B2B sales professionals will be supported by AI and may even relinquish some of the tasks previously performed by people. The trouble is that executives eager to adopt these new technologies are unclear about the contributions that AI may bring to the B2B sales process and the role that sales professionals play in the AI-enabled sales funnel. This understanding is even more critical when adopting AI means relinquishing some degree of human decision making and control.

Against this backdrop, our article explicates the value-add contributions of AI systems at each stage of the sales funnel, in addition to clarifying the role that human intelligence and decision making play at each stage of the AI-enabled sales funnel. We hope that our article provides a comprehensive perspective on the complementarity (Jarrahi, 2018) of humans and AI. AI, with its enormous information processing capacity, can augment human intelligence or even replace well-defined and repeatable human tasks in B2B sales. On the other hand, humans still hold an upper hand in using intuition to deal with contradictory or uncertain information and to derive insights and implications related to their business and in the relationship-building aspects that are paramount in B2B sales. In essence, even in times of profound transformation, the ultimate goal of sales professionals is to help customers satisfy their needs, as the character Willy Loman suggested. What has changed is how the end goal is achieved and how emerging technologies, specifically AI, can support salespeople in achieving this goal by turning big data into information and, ultimately, knowledge.

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