



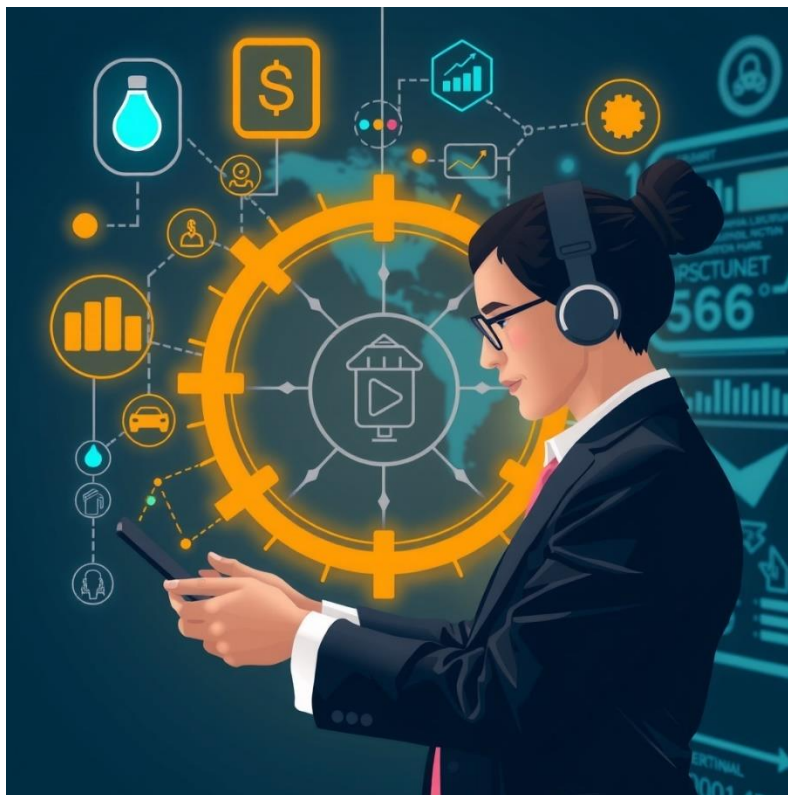
Project Customer Management Skills in Digitalizing B2B Markets

The CustMaS Consortium

Intellectual Output 3

## White paper

# Customer Management Skills Model in Times of Digital Transformation



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## 1. Overview of the CustMaS Project

Technology development and its ubiquitous presence in business-to-business (B2B) markets force pace on salespeople to reskill or upskill (Krafft et al., 2020; Mullins & Agnihotri, 2022; Theotokis et al., 2008). For instance, customers have favored digital self-service or remote human interactions over traditional interactions since the COVID-19 pandemic, leading sales organizations to embrace modern digital tools to communicate with customers (Cruz et al., 2022; Leszkiewicz et al., 2021). In addition, the success of new tools powered by artificial intelligence (AI), such as ChatGPT, is expected to create powerful assistive technology for marketing and sales, significantly affecting sales activities (Chui et al., 2022). The technology could become either a robust supporter to salespeople who adapt or a challenge to people who refuse to change (Ahearne et al., 2005; Blount, 2020). From a business perspective, almost all B2B sales organizations consider reskilling being top priority, especially regarding equipping their salesforce with sufficient digital capability. More than half of sales leaders believe their sales representatives lack the skills to succeed (Cruz et al., 2022). Hence, new sales skills, such as digital, analytical and quantitative skills, are increasing in demand (Cruz et al., 2022; Peesker et al., 2022).

Additionally, the selling process has become more customer-centric (Ahearne et al., 2022; Cruz et al., 2022). Due to digital transformation, customers now have access to more information about products, services, and competition. Furthermore, they contact sellers in the later stages of the selling process to assess the fit of the supplier organization rather than the total solution (Mantrala & Albers, 2012). Customers also seem to evaluate the relational processes that the firm provides more than the product's suitability (Kwiatk et al., 2020; Mantrala & Albers, 2012; Pulles et al., 2016). Therefore, salespeople's role has steered toward managing the customer relationship in digital transformation.

At the same time, within the context of a network economy, European industry has been confronted with an additional set of complex challenges, including intensified geopolitical global competition, the high volatility and susceptibility of global supply networks to crises, raising sustainability challenges and continuous demographic change (Von Der Leyen, 2019), all of which lead to fundamental changes in customer behavior. Fortunately, as part of the fourth industrial revolution (I4.0) new digital technologies have emerged that help towards addressing those challenges. However, digitalization also disrupts traditional buyer-seller interaction (Krafft et al., 2020). CustMaS will, thus, pay special attention

to identifying not only current customer management success skills but also digitalization success skills needed as product and labor markets continue their digitization at an increasingly faster pace.

However, these developments, do not seem to be reflected in curricula at Higher Education Institutions (HEIs) nor in corporate skills development programs offered by professional providers of vocational education and training (Omazic & Zunk, 2021). A scientifically-based skills development programme in digital customer management is currently missing. The present project aims to fill this educational gap and contribute to increasing the competitiveness of the European economy by way of appropriate training of professional B2B sales personnel. Such training will reduce inefficiencies and frictions in the increasingly digitalising demand and supply networks.

The objective of the CustMaS project is to design an empirically validated skills model for B2B customer management skills, a (post-graduate level) curriculum and program guide for developing these skills. The curriculum will be offered as a Master's program and will foster cooperation between the participating universities concerning sales professionals' customer management skills in the context of increasingly digitalized B2B markets (e.g., setting up and selling in virtual showrooms, diagnosing customer needs online, text analytics useful in modeling the topics that B2B buyers prioritize on their web site, in e-mails, Twitter posts, etc). In particular, the project has the following objectives:

- a) Develop an up-to-date, comprehensive, and empirically validated model of skills in B2B customer management in a digitalising world.
- b) Develop a post-graduate level course curriculum and program guide, including program-intended learning outcomes, appropriate pedagogy, and evaluation strategies.
- c) Disseminate the results of the project for a broader community. The project will develop a self-assessment tool for customer management skill evaluation and prepare an introductory Massive Open Online Course (MOOC) on upskilling and reskilling. The course can be used by students in electrical engineering, mechanical engineering, logistics, industrial engineering, life sciences (e.g., biology, biotechnology, pharmacology, zoology), and business administration, as well as by other learners. It will also help in promoting awareness and interest towards professional sales and selling career paths that appear to offer a bright outlook in the job market of the future.

Sales occupations (i.e., sales engineers, sales representatives of services, wholesale, and manufacturing) have been classified as occupations with a bright outlook “projected to grow faster than

average” and “to have 100,000 or more job openings over the period 2019-2029 [only] for the US”. Importantly, market reports note insufficient talent as a key barrier for B2B sellers in Europe. It follows, that for European B2B firms to compete for the markets of purchasing expenses they need sales professionals that will be skillful in accommodating changing B2B buying behaviour.

The CustMaS project comprises five research phases, corresponding to five intellectual outputs (IOs). The first phase contains the literature review of B2B sales, an analysis of current sales job advertisements, and digital marketing education (IO1). The later stages of this project will deliver a validated list of skills (IO2 and IO3), a tested and refined designed curriculum for higher education (IO4), and a Massive Open Online Course on digital customer management skills in B2B (IO5).

## 2. Review of Project Phase 1 and Phase 2

The first phase of the CustMaS project focused on developing a “B2B Customer Management Skills Model.” It began with a literature review to understand the academic perspective on customer management skills and digital selling technologies. This was followed by an analysis of B2B sales job advertisements to identify skills in demand within the industry. The research then assessed top-tier Master’s programs in B2B marketing and sales, evaluating the skills currently being taught. The final step in this phase involved comparing the skills sought in job advertisements with those covered in educational programs, highlighting gaps between industry needs and academic training.

The second phase, known as “Benchmarking Cases,” aimed to build upon the initial skills model by incorporating missing or future-relevant skills through industry insights. To ensure a comprehensive approach, this phase involved conducting interviews with B2B sales professionals from best-practice companies, allowing for a deeper understanding of the skills currently valued in the field and those anticipated to be important for ongoing digital transformation. The objective was to update the skills model with insights that go beyond what was identified in phase one, creating a state-of-the-art reference for B2B customer management skills.

This phase was divided into two main sub-objectives: first, identifying currently important skills that were not covered in phase one; and second, predicting future skills needed due to digital advancements. To achieve these goals, several tasks were done, including developing an interview guide based on the literature review and theoretical framework from the first phase, selecting companies that represent best practices in B2B sales, conducting interviews with their sales teams, and analyzing the gathered data. The findings ensured that the skills model remains relevant and aligns closely with industry expectations, both now and in the future.

## 3. Management Summary of CustMaS IO3

Phase 3 of the CustMaS project investigates the evolving role of sales professionals and the diverse skill sets required for success beyond financial performance. It identifies a gap in existing research, which predominantly focuses on the relationship between sales skills and financial achievements, while neglecting other critical performance areas like customer relationships, administration, innovation, delivery, and cost management. To address this, the study undertakes a comprehensive literature review,

analysis of job advertisements, interviews with sales professionals, and a survey of 318 respondents. This approach results in a taxonomy of 14 key sales skills and models that link these skills to six dimensions of sales performance.

The research emphasizes the changing landscape of sales, driven by technological advancements, evolving customer expectations, and complex market dynamics. It highlights that modern sales roles now demand a variety of skills, including soft skills like relationship-building, resilience, and adaptiveness, as well as technical competencies like data-informed decision-making and technology use. For instance, while financial performance still requires traditional sales skills such as negotiation and closing, customer relationship management increasingly depends on interpersonal and analytical skills. Similarly, administrative and innovation performance benefit from skills in task prioritization and creative problem-solving.

A major outcome of this study is the differentiation between "must-have" and "should-have" skills. Must-have skills are deemed essential for achieving baseline performance in specific areas, while should-have skills contribute to further enhancing performance levels. For example, basic selling skills and communication are identified as must-have for financial success, whereas data analysis is crucial for maintaining strong customer relationships.

The study also provides valuable insights for managers and educators. It offers a structured framework for selecting, training, and evaluating sales talent, recommending that managers align skill development with specific performance goals. For educators, the findings suggest a need to update curricula to reflect the realities of modern sales roles, emphasizing the importance of soft skills like adaptability and collaboration.

By exploring a broader range of skills and their impact on various sales outcomes, this research aims to fill a critical gap in the literature and provide actionable strategies for sales professionals to upskill and meet the challenges of a dynamic market environment.

## 4. Review of the Academic Literature about Customer Management Skills Model

### 4.1 Prior Literature on Salesperson Skills

Salesperson skill is a salesperson's learned proficiency in performing their tasks and can be changed with learning and experience (Ford, 1983; Johnston & Marshall, 2016). Salesperson skills comprise many skills, such as presentation, negotiation, and relationship management. Skills can be classified as hard and soft skills (Laker & Powell, 2011). Hard skills are technical skills that involve working with equipment, data, software, finance, etc., while soft skills include intra-personal skills (ability to manage oneself) and interpersonal skills (ability to handle interactions with others) (Heckman & Kautz, 2012; Laker & Powell, 2011). Soft skills training is less likely to transfer from training to the job than hard skills training (Laker & Powell, 2011). Nevertheless, soft skills are more crucial in predicting success in life and work as they cover more meaningful traits such as conscientiousness, perseverance, and sociability (Heckman & Kautz, 2012). Soft skills are also shown to be necessary to build hard and professional skills (Stek & Schiele, 2021).

There has been research attempting to measure salesperson skill levels, though a comprehensive model of sales skills is still missing (Table 1). Churchill et al., (1985), Verbeke et al., (2010), Ohiomah et al., (2020), Kerr & Marcos-Cuevas (2023) used meta-analysis and found a positive impact of skill on sales performance, besides other sales performance determinants. They collected several papers studying a single or a few skills, then presented sales skills in four overarching categories, including interpersonal skills, degree of adaptiveness, selling-related knowledge, and inter-organizational skills. Høgevoold et al. (2021) used a survey to empirically test sales skills in the context of sales performance, resulting in seven dimensions of sales skill level. That includes presentation skills, communication skills, the ability to modify sales approach, the ability to modify sales behaviour, product/technical knowledge, customer knowledge, and use of technology. Despite the comprehensiveness, those seven dimensions still left out emerging salesperson skills in times of digital transformation, such as analytical skills (Peesker et al., 2022), resource management (Xu et al., 2021), inter-organizational skills (Kerr & Marcos-Cuevas, 2023), emotional intelligence (Kidwell et al., 2021), and political skills (Good et al., 2022).



**Table 1 Review of research on sales skills and determinants of sales performance**

Study	Skills-related investigation	Sales performance measurement	Type of research	Sample
Churchill et al., 1985	General skill level	Financial performance	Meta-analysis	116 studies from 1918 to 1982
Marshall et al., 2003	60 success factors, including skills	NO	Focus group, Survey	6 focus groups, 215 survey responses
Ahearne et al., 2007	3 sales skills	Financial performance	Survey	203 survey responses
Reday et al., 2009	3 categories of sales characteristics	Financial performance	Survey	185 survey responses
Verbeke et al., 2010	3 categories of sales skills	Financial performance	Meta-analysis	168 studies from 1982 to 2008
Rentz et al., 2002	3 sales skills	NO	Survey	106 survey responses
Chawla et al., 2020	4 categories of sales skills	Financial performance	Literature review	261 peer-reviewed journal papers
Ohiomah et al., 2020	4 categories of sales competencies	Financial performance	Meta-analysis	139 independent published studies from 1980 to 2019
Paesbrugghe et al., 2020	3 themes of sales behaviours and strategies	Purchaser's perceptions of salespeople	Focus group, interviews	1 focus group, 35 in-depth interviews
Razmak et al., 2022	110 sales skills	NO	Interviews, surveys	13 interviews, 71 survey responses
Høgevoid et al., 2021	7 sales skills	NO	Survey	236 survey responses
Peesker et al., 2022	Analytical skills	Financial performance	Content analysis, interviews, surveys	3.8 million job postings, 20 interviews, 251 survey responses
Elhajjar et al., 2023	10 categories of skills	NO	Content analysis, interviews, surveys	565 sales job descriptions, 33 interviews, 380 survey responses
Kerr & Marcos-Cuevas, 2023	5 categories of sales skills	Financial performance	Meta-analysis	150 studies from 2009 to 2020
This study	92 sales skills	Six types of sales performance	Literature review, content analysis, interviews, survey	110 peer-reviewed journal papers, 38 job postings, 20 interviews, 318 survey responses

In terms of research methods, previous research has used different approaches to study salesperson skills. Researchers used meta-analysis or literature review to accumulate sales skills mentioned in the literature and group them into a small number of skill categories (e.g. Chawla et al., 2020; Churchill, 1979; Kerr & Marcos-Cuevas, 2023; Ohiomah et al., 2020; Verbeke et al., 2010; Vinchur et al., 1998). Another approach is to start from a validated set of skills in the literature and build scale measurements for those skills (e.g. Ahearne et al., 2007; Høgevold et al., 2021; Reday et al., 2009; Rentz et al., 2002). These studies deepened the understanding of salesperson skills; however, the number of skills was very much constrained by the literature, with only three to a maximum of seven salesperson skill categories. Besides, previous studies conducted either focus groups or interviews with salespeople, sales managers, or purchasers, or content-analysis of job advertisements to build extensive sales skills lists, which amount from ten to 110 skills (Elhajjar et al., 2023; Marshall et al., 2003; Paesbrugghe et al., 2020; Peesker et al., 2022; Razmak et al., 2022). While those skill lists were extensive, they were descriptive in nature and did not examine the impact of skills on sales performance. They stopped after grouping skills into different themes or comparing skills by their mean importance rankings.

## 4.2 Six Types of Salesperson Performance

Salesperson performance has attracted much academic interest. Walker et al. (1979) defined salesperson performance as behaviours evaluated regarding their contribution to organizational goals. Campbell et al. (1993) considered salesperson performance as individual sales inputs and outputs of effort quality and quantity. In a more recent study, Bolander et al. (2021) described salesperson performance as comprising activity-, outcome-, conversion-, and relationship-based performance. It covered behavioural metrics such as numbers of calls, meetings, proposals, etc., actual sales results, rates of inputs and outcomes, and metrics measuring the strength of the sales-customers relationship.

This study explores six different categories of salesperson performance: financial, customer relationship, administrative, innovation, delivery, and cost performance (Table 2). Financial performance is the most widely used construct to measure a salesperson's effectiveness (Sujan et al., 1994). Customer relationship performance is becoming more attractive since modern sales objectives have focused more on customer management (Behrman et al., 1982; Bolander et al., 2021). Administrative performance was recently added by Sundaram et al. (2007) to measure how technology use can enhance salesperson performance.

This research is the first to study innovation, delivery, and cost performances in a sales context. Previous research has focused more on in-role performances, which directly benefit sales performance. This study expands to hybrid- and extra-role performance, which is still sparse in the literature (Ahearne & Lam, 2011). Extra-role performance is a performance that benefits targeted individuals or organizations but may hurt the sales performance, while hybrid performance is the objective that can not be classified as either in-role or extra-role (Ahearne & Lam, 2011; Podsakoff & MacKenzie, 1997). Cost performance can be classified as extra-role performance since it aims at reducing cost, which may hurt sales performance (Stek & Schiele, 2021). Innovation performance is about improving product and process, and delivery performance is about ensuring a timely delivery to customers (Stek & Schiele, 2021). They can be classified as hybrid-role performances.

**Table 2 Classification of prominent types of sales performances**

In-role performance		Hybrid		Extra-role performance	
<ul style="list-style-type: none"> <li>Financial performance: Achieving monetary sales objectives (Peesker et al., 2022; Sujan et al., 1994)</li> <li>Administrative performance: Ensuring activities planning, time, and expense management (Hunter &amp; Perreault, 2007; Sundaram et al., 2007)</li> </ul>		<ul style="list-style-type: none"> <li>Customer relationship performance: Cultivating a relationship that benefits both buying and selling firms (Behrman et al., 1982; Hunter &amp; Perreault, 2007)</li> <li>Innovation performance: Achieving product and/or process improvement (Micallef et al., 2024; Stek &amp; Schiele, 2021)</li> <li>Delivery performance: Ensuring timely delivery (Micallef et al., 2024; Stek &amp; Schiele, 2021)</li> </ul>		<ul style="list-style-type: none"> <li>Cost performance: Lowering cost (Micallef et al., 2024; Stek &amp; Schiele, 2021)</li> </ul>	

### 4.3 Technology drives the urgency to study contemporary sales skills and performance

Technology has fundamentally impacted the sales management process. At a market level, companies in B2B on both buyer and seller sides are digitizing their business to allow for data-enabled growth, establishing competitive advantages (Ritter & Pedersen, 2020). As a result, at a company level, seller firms invest in their technological capabilities, such as online and AI sales training or leaders' communication or reward systems to equip their sales teams with the necessary digital selling readiness and skills (Agnihotri et al., 2023a; Luo et al., 2021; Mullins & Agnihotri, 2022; S. S. Singh et al., 2022). Besides, technology has radically changed how buyers and sellers interact by facilitating information symmetry and digital communication (Ahearne et al., 2022; Singh et al., 2020). The changes in technology force companies to redesign their marketing strategies and activities to engage with modern customers and keep up with the market. At a sales management level, the new context of digital transformation asks sales managers to rethink and revolutionize how they manage their sales team. Sales technology use should go beyond micro-managing sales tasks to enable more salespeople's time and effort on value-creation activities (Agnihotri et al., 2023; Ahearne et al., 2007; J. Singh et al., 2019).

Technology advancement has made sales skills training more important than ever. To embrace new technologies, sales professionals must learn, unlearn, and relearn skills (Rayburn et al., 2021; Mattila et al., 2021). For example, in terms of hard skills, abundant technologies supporting each selling stage require sales professionals to learn new technical software skills (Agnihotri, 2021; Fischer et al., 2023a). In terms of soft skills, the use of communication technology such as video calls, chat, or social media makes connecting with customers faster and more convenient, but the quality of interaction could be reduced due to a lack of eye contact or a feeling of control (Ahearne et al., 2022). Despite technology's abundant benefits, sometimes sales professionals cannot guarantee a successful application of a digitalizing sales program because they lack the conditions, such as skills, training, and managers' support (Ahearne et al., 2005; Blount, 2020; Cruz et al., 2022). Therefore, the rapidly changing digital context requires sales training to be updated with important and new skills.

Besides, technology advancement also impacted sales performance to a great extent. A salesperson's use of technology can improve a salesperson's efficiency and effectiveness (Ahearne et al., 2005). Salespeople's use of social media can affect their information communication practices, which enhances their responsiveness and customer satisfaction (Agnihotri et al., 2016). A study found a

curvilinear relationship between salesperson's CRM technology usage and performance, meaning spending more time using technology will increase outcomes until a certain point when the effect will reverse (Ahearne et al., 2004). Besides, there are several factors influencing the impact of technology on sales performance, such as training, support, and adaptive selling behavior (Ahearne et al., 2005; Park et al., 2010).

Moreover, modern technology has made different types of sales performance become more prominent. With the aid of CRM, AI, and automation tools, managers can expect their salespeople to fulfill administrative tasks in a more timely manner (Sundaram et al., 2007). Customers, with access to enormous sources of information and suppliers in this technological era, have become more demanding, requiring more from sales, such as improving delivery and compelling cost reduction (Ahearne et al., 2022). Moreover, sales organizations that invest in technology expect many things in return, such as more revenue, less cost, and even more innovation to get ahead of their competitors (Ritter & Pedersen, 2020). The influence of technology on different aspects of the selling organization, such as innovation, interaction, resource, and information, leads to an inevitable effect on a salesperson's innovation, delivery, and cost performance (Fischer et al., 2023b; McClure et al., 2024; Micallef et al., 2024).

#### 4.4 Sales Skills – Performance Relations

Empirical studies have found evidence that salesperson skills positively impact salesperson performance. Meta-analysis research on determinants of salesperson performance observed positive effects of interpersonal, salesmanship, inter-organizational, technology skills, and selling-related knowledge on salesperson performance (Churchill et al., 1985; Kerr & Marcos-Cuevas, 2023; Ohiomah et al., 2020; Verbeke et al., 2010). Studies of one or a few focused salesperson skills, such as analytical, presentation, or targeting skills, also concluded a positive relationship between skills and performance (Ahearne et al., 2007; Peesker et al., 2022). These results were also plausible from a practical perspective since the higher the skill level a salesperson has, the higher the achievement they should accomplish.

Moreover, some skills are more important than others in leading to different sales objectives. For example, a high presentation skill level to effectively persuade customers is more likely to lead to higher financial performance, which is about generating revenue, than administrative performance, which is about paperwork and reports. Therefore, it is meaningful to managers and educators to know which skills are more important for which sales objectives, as they can deliver the right training or education content, saving training resources.

*Figure 1 Conceptual model*

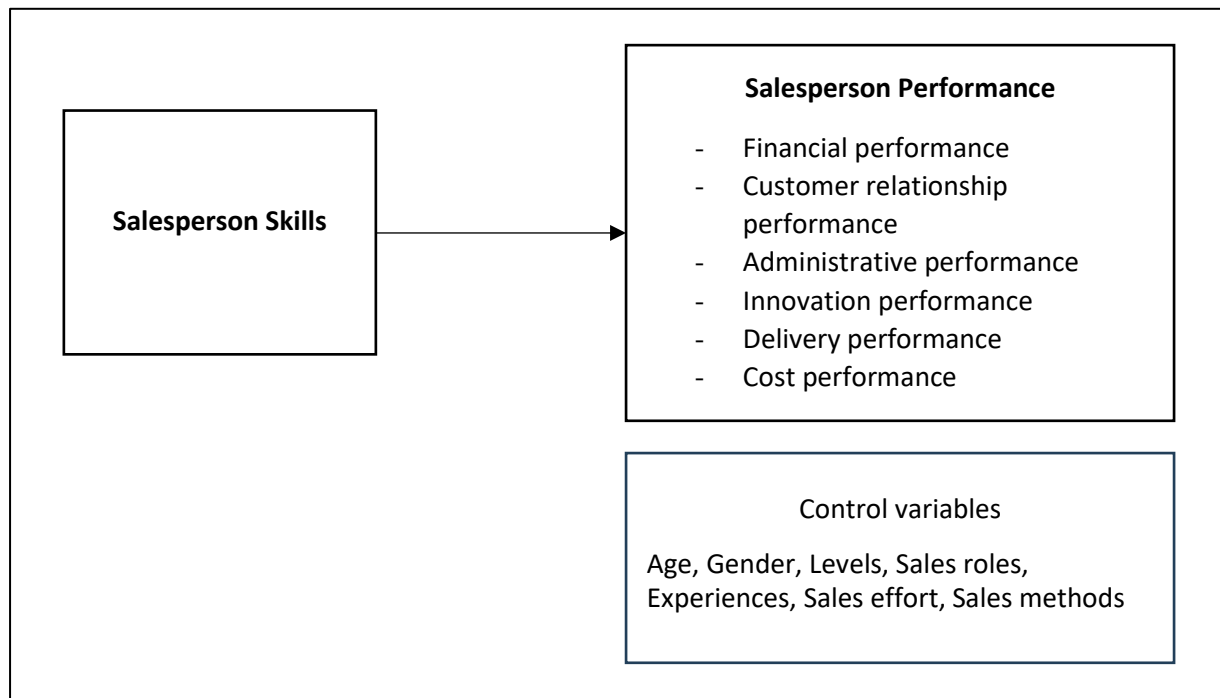


Figure 1 summarizes the proposals this study seeks to explore. Salesperson skills influence salesperson performance, controlling for salesperson personal variables. Skills are examined on each type of performance separately, including financial, customer relationship, administrative, innovation, delivery, and cost performance.

The discussion of necessary must-have and additive should-have skills leading to success has gained increasing interest. The most recent meta-analysis of determinants of sales performance by Kerr & Marcos-Cuevas (2023) tried to classify factors as (1) universal predictors – having the strongest influence on sales performance, (2) context-specific predictors – changing influence based on the industry, and (3) necessary but insufficient predictors – showing little influence but still being considered important. They touched on the need for a concept of “necessary factors” in sales performance determinants. Researchers of organizational research methods have brought up and tried to solve this need with the NCA method (Dul, 2016; Dul et al., 2023). Other fields of business have attempted to apply both OLS regression and NCA in studying the determinants – outcomes relationship (Richter et al., 2020; Stek & Schiele, 2021).

## 5. European Skills Survey

This study comprises three phases. In the first phase, we built an extensive list of salesperson skills from the literature and sales job advertisements. This list included the current skills that are well-known by academia and practitioners. The second phase was to add any missing or potential future skills to the list by interviewing sales professionals. The last phase was to quantitatively examine the skills list by a survey targeting sales professionals. We conducted multiple types of analyses from the survey results to answer the research questions. Firstly, we used factor analysis to group the skills into factors to make it practical for managers and further analyses. Then, we used OLS regression and NCA to find should-have and must-have sales skills leading to success.

We scanned eight leading academic journals in marketing and sales (*Journal of Marketing*, *Journal of Marketing Research*, *Journal of the Academy of Marketing Science*, *Journal of Business Research*, *Industrial Marketing Management*, *Journal of Personal Selling & Sales Management*, *Journal of Business-to-Business Marketing*, *Journal of Business & Industrial Marketing*) in 3 years 2022, 2021, and 2020. Based on titles and abstracts, we selected papers related to B2B sales, sales management, technologies, customer management, and skills. We studied these papers thoroughly to grasp the most recent knowledge of B2B salesperson skills in the context of digitalization. Then, we scanned the references for other sales skills-related papers, resulting in 110 articles. All of the papers were put in the software Atlas to perform textual analysis. Keywords about sales skills were tracked and counted.

We collected job advertisements on LinkedIn (<https://www.linkedin.com>) from September to November 2022 that recruited sales positions in the Netherlands. These advertisements covered different positions, industries, and experience levels. The positions included sales representatives, sales consultants, account managers, customer success management, sales engineers, and others. The industries were information technology, consultancy services, industrial machinery, and so on. The experience levels ranged from entry-level to vice president of sales. These advertisements were also put in Atlas software for textual analysis. After 38 advertisements, no new skills emerged. This phase resulted in 81 sales skills well-known by academia and managers.

Next, we interviewed twenty sales professionals to test and extend the list of skills. The objective of the interviews was to explore (1) currently important skills that were not mentioned in the previous phase and (2) future skills that are predicted to be crucial in digital transformation by practitioners. The sales professionals were from best-practice companies, which were selected in the six largest sectors

within the EU's industrial economy in 2022 (Industrial Production Statistics, 2022) and the Information and Communication Technologies (ICT) sector. The ICT sector was included because it was the most digitized - measured by the dimension "Integration of Digital Technology" of the Digital Economy and Society Index 2022 (Digital Economy and Society Index (DESI) 2022 Integration of Digital Technology, 2022). Besides, companies must have a positive compound annual growth rate from 2016 to 2019.

The interview consisted of two parts: present skills and future skills. In the first part, the interviewees were asked about their sales activities, the technology tools that they used, and sales skills they consider important. They were shown the sales skill list from Phase 1 and probed for missing skills. In the second part, the interviewees were questioned about their prediction of how sales would change with the development of technology and asked to name skills they considered important in the future. The interviews were transcribed and analyzed. In the end, the interview added nine more skills to the list.

### **Data collection**

We recruited respondents in two ways. The first one was finding sales professionals on LinkedIn and sending them the questionnaire. The advantage of this recruitment channel was the respondents' credibility, knowing for certain they are sales professionals. The disadvantage was that they could be less motivated to answer the questionnaire since no monetary reward was offered. The second way to recruit respondents was the website Prolific ([www.prolific.com](http://www.prolific.com)), a platform to find research participants. This platform had the advantage of respondents being more willing and faster to participate as they were paid around \$15 per hour.

We received 395 responses from B2B marketing and sales professionals. After excluding responses that were uncompleted or failed the attention-check questions, there were 318 usable survey responses. Non-response rate bias was assessed by comparing early to late responses across all variables, with no significant differences (Armstrong & Overton, 1977). The respondents were ensured of the confidentiality of their answers to counter the common method bias (Peesker et al., 2022; Podsakoff et al., 2003). Table 3 summarises the profiles of our final samples.

**Table 3 Sample profile**

	%		%
Region		Level	
Eastern Europe	23.0	Entry-level	14.2
Northern Europe	10.4	Associate	26.7
Southern Europe	38.7	Mid-senior level	40.9
Western Europe	27.0	Director	9.7



	%		%
Others	0.9	Executive	8.5
Gender		Education	
Female	38.4	Grammar School	2.5
Male	60.7	Apprenticeship	7.2
Non-binary/ third gender	0.6	Bachelor	43.4
Prefer not to say	0.3	Master	35.2
		PhD	1.6
Age		Others	10.1
18 - 24	18.2		
25 - 34	48.7	Sales method	
35 - 44	21.7	Inside sales	45.3
45 - 54	7.2	Outside sales	17.0
55 - 64	3.8	Both inside and outside sales	37.7
65 - 74	0.3		
Tenure		Sales role	
<3 years	36.5	Consultative Seller	17.3
		Key Account Seller	10.7
3 - 4.9 years	21.4	New Business/ Channel	
5 - 9.9 years	21.1	Development Seller	10.1
10 - 19.9 years	15.4	Sales Analyst	11.9
20+ years	5.7	Sales Support	20.4
		Sales Manager	20.1
Company size		Others	9.4
≤ 50	37.4		
51 - 500	24.5		
501 - 5,000	18.9		
5,000+	19.2		

N = 318

## 6. Results

### 6.1 Salesperson skills summarized in 14 factors

Factor analysis resulted in a list of 14 factors representing the sales skills taxonomy (Table 4). Each factor was named with a short description of the factor's content. This taxonomy covers both the hard and soft skills of salespeople. Some skills are very sales-oriented, such as basic selling skills and knowledge, account planning and management, and sales process management. There are technology-oriented skills, including data-driven decision-making and technological tools skills. Management-oriented skills include inter-organizational skills and leadership and personnel management. Some people-oriented skills include communication and relationship-building, customer understanding, and people skills. Soft skills cover resilience and persuasiveness, creativity and adaptiveness, learning, and task prioritization.

**Table 4 Outcome of factor analysis – A taxonomy of salesperson skills**

Factors	Competences/ items
1. Basic selling skills and knowledge	Product knowledge, Customer success management, Sellership skills, Challenging sales skills, Customer-oriented selling, Salesperson skills, Value-based selling, Customer classification, Field-specific technical knowledge, Closing, Objection handling
2. Account planning and management	Implementation planning, Follow-up, Solution selling, Business case development, Account management/ strategic selling
3. Sales process management	Business and financial acumen, Orchestration, Prospecting, Entrepreneurial skills, Funnel management, Industry research and value development, Holistic thinking, Initial judgment
4. Data-driven decision-making	Comprehension of complexity, Analytical skills, Problem-solving, Process improvement, Data-driven mindset, Decision-making, Internal systems literacy, Willingness to take risks
5. Technological tools	Salesforce automation tools, Information technology tools, Salesforce management tools, Artificial intelligence tools, Customer relationship management tools, Social media tools
6. Inter-organizational skills	Working with the logistics department, Working with the purchasing department, Working with the production department, Working with the quality department, Working with the R&D department, Working with the legal department, Working with HR department
7. Leadership and personnel management	Leadership/ managing personnel, Managing change processes, Interviewing, Training personnel, Project management skills
8. Communication and relationship-building	First impression/ initial impact, Communication skills, Interpersonal skills, Questioning, Building relations, Presentation, Negotiation, Capacity to advice

9. Customer understanding		Cross-cultural awareness, Personality identification and communication impact, Social selling, Conscientiousness, Customer engagement, Internal customer orientation
10. People skills		Honesty, Team ability skills, Capacity to be empathetic, Listening, Open-mindedness, Ability to resolve conflicts, Loyalty, Business ethics, Emotional intelligence, Personal skills, Social manners
11. Resilience persuasiveness	and	Coping with stress, Poise, Self-assurance, Resilience, Power of persuasion, Proactivity
12. Creativity adaptiveness	and	Creativity, Inventiveness, Adaptiveness, Agility
13. Learning		Willingness to learn, Learning agility, Learning, Personality characteristics development
14. Task prioritization		Prioritization, Multitasking, Result-orientated action-taking

## 6.2 Must-have and should-have salesperson skillsets across sales performances

We used OLS regression and NCA to analyze the relationship between 14 skill factors and each sales performance. Besides, relative weights analysis was performed to rank the importance of skills in each performance (Johnson & LeBreton, 2004; Tonidandel & LeBreton, 2011). The results are displayed in Table 5. The use of both OLS regression and NCA allowed us to identify the must-have skills (from NCA) necessary for performance (necessity logic) and the should-have skills (from OLS regression) that contribute to a high-level performance (sufficiency logic) (Dul, 2016; Dul et al., 2023; Richter et al., 2020). By combining both methods, we can offer a more precise and practical understanding of how each skill impacts different sales performances.

**Table 5 Outcomes of OLS regression, relative weights, and NCA**

	Financial performance		Customer relationship performance		Administrative performance		Innovation performance		Delivery performance		Cost performance	
NCA	Effect size	p-value	Effect size	p-value	Effect size	p-value	Effect size	p-value	Effect size	p-value	Effect size	p-value
Inter-organizational skills	.084	.183	.103	.032	.081	.043	.048	.458	.089	.114	.098	.150
Basic selling skills and knowledge	.120	.003	.048	.659	.017	.824	.062	.183	.054	.597	.078	.348
Comm. and relationship-building	.163	.022	.169	.007	.010	.918	.010	.949	.164	.009	.190	.008
People skills	.045	.804	.058	.677	.068	.215	.031	.773	.058	.674	.098	.328
Leadership and personnel mng.	.084	.297	.077	.373	.060	.256	.034	.692	.101	.120	.132	.041
Resilience and persuasiveness	.081	.595	.089	.482	.066	.482	.068	.492	.054	.837	.106	.406
Technological tools	.046	.486	.065	.150	.018	.731	.034	.443	.034	.713	.045	.621
Account planning and mng.	.193	.135	.230	.016	.158	.167	.155	.173	.208	.050	.207	.146
Sales process management	.082	.363	.059	.637	.038	.613	.089	.069	.108	.081	.076	.566
Data-driven decision-making	.165	.290	.217	.029	.099	.555	.191	.046	.141	.439	.165	.379
Creativity and adaptiveness	.050	.530	.096	.011	.030	.541	.045	.322	.036	.768	.097	.051
Learning	.053	.196	.077	.009	.029	.328	.037	.223	.017	.873	.006	.977
Customer understanding	.058	.500	.059	.475	.067	.098	.026	.771	.079	.154	.094	.121
Task prioritization	.056	.318	.043	.530	.065	.020	.049	.165	.037	.656	.080	.145
OLS	$\beta$	RW	$\beta$	RW	$\beta$	RW	$\beta$	RW	$\beta$	RW	$\beta$	RW
(Intercept)	.104 (.169)		.100 (.193)		-.098 (.212)		.128 (.198)		.096 (.206)		-.177 (.219)	
Inter-organizational skills	.092 (.045)*		.132 (.051)*	.023	.173 (.056)**	.021	.123 (.052)*	.020	.206 (.055)***	.051	.131 (.058)*	.024
Basic selling skills and knowledge	.158 (.047)***		.084 (.054)	.011	-.053 (.060)	.006	.021 (.056)	.001	.049 (.058)	.008	-.067 (.062)	.001
Comm. and relationship-building	.150 (.045)**		.160 (.052)**	.024	-.030 (.057)	.003	.033 (.053)	.001	.109 (.055)+	.013	.061 (.059)	.004
People skills	.010 (.043)	.000	.133 (.049)**	.015	.178 (.054)**	.028	-.034 (.051)	.001	.134 (.053)*	.016	-.028 (.056)	.002

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	Financial performance		Customer relationship performance		Administrative performance		Innovation performance		Delivery performance		Cost performance	
Leadership and personnel mng.	.123 (.046)**	.014	.117 (.053)*	.013	.173 (.058)**	.023	.182 (.054)***	.038	.105 (.056)+	.013	.094 (.060)	.008
Resilience and persuasiveness	.153 (.045)***	.033	.134 (.052)**	.019	.127 (.057)*	.011	.046 (.053)	.005	.061 (.055)	.006	.020 (.059)	.002
Technological tools	.027 (.044)	.003	.037 (.051)	.003	.118 (.055)*	.013	.059 (.052)	.003	.067 (.054)	.004	.045 (.057)	.002
Account planning and mng.	.177 (.044)***	.027	.125 (.050)*	.014	.000 (.055)	.000	.119 (.051)*	.014	.028 (.053)	.001	.211 (.057)***	.043
Sales process management	.240 (.044)***	.052	.122 (.050)*	.012	.101 (.055)+	.008	.087 (.052)+	.008	-.028 (.054)	.001	-.002 (.057)	.000
Data-driven decision-making	.124 (.044)**	.018	.182 (.050)***	.033	.133 (.055)*	.012	.167 (.052)**	.033	.124 (.054)*	.017	.041 (.057)	.003
Creativity and adaptiveness	.044 (.044)	.002	.146 (.050)**	.023	-.120 (.055)*	.012	.195 (.052)***	.037	.107 (.054)*	.013	.062 (.057)	.005
Learning	.037 (.042)	.001	.032 (.049)	.002	.061 (.053)	.005	.127 (.050)*	.016	-.049 (.052)	.002	-.013 (.055)	.000
Customer understanding	.145 (.042)***	.029	.183 (.048)***	.039	.074 (.053)	.008	-.029 (.049)	.001	.058 (.051)	.006	.042 (.055)	.003
Task prioritization	.151 (.044)***	.025	.058 (.050)	.005	.213 (.055)***	.045	.145 (.051)**	.024	.133 (.053)*	.017	.068 (.057)	.004
Age	included		included		included		included		included		included	
Gender	included		included		included		included		included		included	
Level	included		included		included		included		included		included	
Sales experience	included		included		included		included		included		included	
Sales role	included		included		included		included		included		included	
Sales method	included		included		included		included		included		included	
Sales effort	included		included		included		included		included		included	
R2	.544		.400		.280		.371		.318		.229	

Note: Insignificant outcomes are displayed in grey font.

NCA effect size:  $0 < d < 0.1$ : small effect,  $0.1 \leq d < 0.3$ : medium effect,  $0.3 \leq d < 0.5$ : large effect,  $d \geq 0.5$ : very large effect (Dul, 2018)

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Overall, different selling objectives require a very distinct set of skills.

- (1) *Financial performance* requires a wide range of skills. There are ten significant determinants and two necessary conditions. Regarding the significant determinants, financial performance values selling-oriented skills the most, which are sales process management and basic selling skills and knowledge. Relationship-building and people skills are also important. Among soft skills, only resilience and persuasiveness and task prioritization are crucial to achieving financial targets. Basic selling skills and knowledge and communication and relationship-building are both significant determinants and necessary conditions, meaning, on average, an increase in these two skill levels will increase the monetary outcome. However, a certain level of skill is necessary for the performance to manifest. For example, in order to achieve financial performance in the 90<sup>th</sup> percentile, a salesperson needs communication and relationship-building skills in the 23<sup>rd</sup> percentile level and basic selling skills and knowledge in the 27.7<sup>th</sup> percentile level (see Appendix C – NCA bottleneck tables).
- (2) *Customer relationship performance* also values many different skills. There are ten significant determinants. Among them, people- and management-oriented skills are ranked higher in importance. Data-driven decision-making is the second most important, probably due to the fact that customer relationship management technology is becoming more and more prevalent nowadays. There are six necessary conditions. Four of them are significant determinants and necessary conditions. Notably, inter-organizational skills and learning skills are nonsignificant determinants and a necessary condition, meaning a certain level of skill is necessary for the performance to manifest. However, a further increase is not recommended, as it will not increase the outcome any further. For instance, in order to achieve customer relationship performance in the 90<sup>th</sup> percentile, a salesperson needs inter-organizational skills in the 30.8<sup>th</sup> percentile. An increase in this skill will not increase their customer relationship performance unless they want to get to the 100th percentile. Then, besides other factors, their inter-organizational skills need to be in the 62.3<sup>rd</sup> percentile (see Appendix C – NCA bottleneck tables).
- (3) *Administrative performance* demands task prioritization the most, besides many people- and management-oriented skills. Interestingly, creativity and adaptiveness negatively impact this performance. It is also the only significant and negative effect found across all analyses. It raises the question of whether managers should ask salespeople to be uncreative in order to achieve good administrative results. Moreover, technological tools are important for this performance,

meaning that a salesperson's ability to use sales tools such as CRM or automation helps them finish administrative tasks more effectively. This result is supported by the findings from other studies about technology strengthening administrative performance (Hunter & Perreault, 2007; Sundaram et al., 2007). Besides, this performance sees two necessary conditions of only small effects. This result makes sense since this performance seems to be not so difficult and does not require specialized skills.

- (4) *Innovation performance* calls for management-oriented, creativity and adaptiveness, data-driven decision-making, and other skills. This is understandable since innovative actions require cooperation with others and creativity. Learning skill is found important, as it is critical to stay up-to-date with the markets, products, and technology to bring in innovation. Data-driven decision-making is a significant determinant and necessary condition for this performance, so a salesperson needs to be able to use data to drive innovation, and the better they use data, the more innovative they can be.
- (5) *Delivery performance* requires inter-organizational skills as the top skill, followed by data-driven decision-making, task prioritization, and other skills. The result is reasonable, as timely delivery needs salespeople to be good at coordinating different teams and functions. Though communication and relationship-building and account planning and management are not significant determinants, they are necessary conditions for this performance. A salesperson needs to get to a certain level of these skills to achieve a certain level of performance, though continuous improvement of these skills may not be necessary.
- (6) *Cost performance* sees only two significantly important skills, including account planning and management and inter-organizational skills. This performance requires salespeople to work with customers in terms of planning and management and cooperate internally in order to achieve the targeted cost reduction. Two nonsignificant determinants but necessary conditions for this performance are communication and relationship-building and leadership and personnel management.

There are some noteworthy points. Among technology-oriented skills, data-driven decision-making is found important for all performances except for cost performance, while technological tools skill is important only for administrative performance. It means a digital mindset, which is the ability to understand data and technology and use them for decision-making, is much more important than the technical ability to use the tools. Besides, inter-organizational skills are the only skills that are important

for all performances. This result shows the increasing influence of salesperson's competency in managing various relationships in the digitalizing sales ecosystem, as mentioned in previous studies (Ahearne et al., 2022; Chawla et al., 2020).

Moreover, the results of our research show educators that soft skills need more attention in teaching and learning. For instance, many higher-education marketing and sales programs often neglect soft skills such as resilience and task prioritization. The increasing complexity of the digital context asks salespeople to deal better with stress and multitasking. Sales programs can equip their learners with these important skills by offering knowledge, practice, and self-reflection activities.

## 7. Summarizing and Linking to Intellectual Output 4

This phase the project explores the diverse skills required for modern B2B sales success, emphasizing that sales roles now extend beyond financial performance to include customer relationships, administration, innovation, delivery, and cost management. Through literature review, job ad analysis, interviews, and a survey of 318 sales professionals, it develops a taxonomy of 14 essential skills. The study differentiates between "must-have" skills necessary for baseline performance and "should-have" skills that enhance outcomes. For example, basic selling and communication skills are crucial for financial success, while data analysis is key for customer relationships. It provides actionable insights for managers to align training with performance goals and suggests that educators update curricula to include both technical and soft skills. The research aims to guide sales professionals in adapting to evolving market demands and improve overall sales performance.

In the next phase of the project, a curriculum for Digital Sustainable Customer Management Skills in B2B will be developed for Master's level education, based on empirically validated skills and learner needs. The program will include strategic commitments, such as fostering deep knowledge of sales and effective selling practices, which will guide the creation of Program Intended Learning Outcomes (PILOs). Methods for evaluating these outcomes will be established, along with a program guide tailored to the needs of trainers and administrators. The curriculum will undergo initial testing and refinement during an international summer school, where representative students from participating organizations will be invited to provide feedback.



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## 9. Appendix

### A. Appendix A - Factors Of Salesperson Skills

	Factor loadings
<b>Factor 1. Inter-organizational skills</b> ( $\alpha = .83$ , AVE = .05)	
<b>Working with the logistics department</b> - Knowing basics about logistic planning and establishing/ maintaining relationships with this group (Kerr & Marcos-Cuevas, 2023)	.77
<b>Working with the purchasing department</b> - Knowing basics about purchasing and establishing/ maintaining relationships with this group (Kerr & Marcos-Cuevas, 2023)	.68
<b>Working with the production department</b> - Knowing basics about operations and establishing/ maintaining relationships with this group (Kerr & Marcos-Cuevas, 2023)	.68
<b>Working with the quality department</b> - Knowing basics about quality management and establishing/ maintaining relationships with this group (Kerr & Marcos-Cuevas, 2023)	.59
<b>Working with the R&amp;D department</b> - Knowing basics about research and development and establishing/ maintaining relationships with this group (Kerr & Marcos-Cuevas, 2023)	.53
<b>Working with the legal department</b> - Knowing basics about legal and contractual issues and establishing/ maintaining relationships with this group (Kerr & Marcos-Cuevas, 2023)	.52
<b>Working with HR department</b> - Knowing basics about HR and personnel administration and establishing/ maintaining relationships with this group (Kerr & Marcos-Cuevas, 2023)	.41
<b>Factor 2. Basic selling skills and knowledge</b> ( $\alpha = .91$ , AVE = .05)	
<b>Product knowledge</b> - Knowledge and understanding of internal systems, tools, processes, and infrastructure (Razmak et al., 2022)	.53
<b>Customer success management</b> - Ability to deliver customer value proposition or even enhance customer value when goods or services are used at the customer firm (Kleinaltenkamp et al., 2023)	.50
<b>Sellership skills</b> - Having the drive to sell and establish trust with a customer (Schiele, 2007)	.50
<b>Challenging sales skills</b> - Ability to influence a customer to look at existing issues in a different light (Razmak et al., 2022)	.50
<b>Customer-oriented selling</b> - Willingness to provide the customer with the best service possible (Stek & Schiele, 2021)	.49
<b>Salesperson skills</b> - Having acquisition strength and having canvassing ability (Stek & Schiele, 2021)	.45
<b>Value-based selling</b> - Ability to understand the customer's business model, craft the value proposition, and communicate customer value (Ulaga & Eggert, 2006)	.43



<b>Customer classification</b> - Knowledge of what the organization sells, how it pertains to customers' needs, and positioning the product effectively to a customer	.42
<b>Field-specific technical knowledge</b> - Ability to make decisions based on data analysis instead of emotion and intuition	.42
<b>Closing</b> - Ability to convince a prospect to accept the offer, usually taking place during the final stage of the sales or negotiation process (Marshall et al., 2003; Peesker et al., 2022)	.40
<b>Objection handling</b> - Ability to handle and mitigate the impact of customer objections (Razmak et al., 2022)	.32
<b>Factor 3. Communication and relationship-building</b> ( $\alpha = .87$ , AVE = .05)	
<b>First impression/ initial impact</b> - Ability to create a good first impression with customers (Razmak et al., 2022)	.59
<b>Communication skills</b> - Having the skills to listen and to communicate in a non-verbal and verbal way (Peesker et al., 2022; Razmak et al., 2022; Schiele, 2007)	.55
<b>Interpersonal skills</b> - Ability to communicate or interact well with other people (Razmak et al., 2022)	.55
<b>Questioning</b> - Ability to ask questions to engage the prospect, build rapport, discover needs, manage the sales conversation, and gain commitment (Peesker et al., 2022)	.50
<b>Building relations</b> - Networking and relations management (Razmak et al., 2022; Stek & Schiele, 2021)	.43
<b>Presentation</b> - Ability to tell a compelling story, highlight your value proposition, and align with your audience's needs and desires (Peesker et al., 2022; Razmak et al., 2022)	.41
<b>Negotiation</b> - Ability to conduct strategic discussions with customers that ideally lead to a deal being closed (Marshall et al., 2003; Peesker et al., 2022)	.40
<b>Capacity to advice</b> - Having consultancy skills (Razmak et al., 2022; Stek & Schiele, 2021)	.40
<b>Factor 4. People skills</b> ( $\alpha = .87$ , AVE = .04)	
<b>Honesty</b> - Being trustworthy in professional life (Stek & Schiele, 2021)	.57
<b>Team ability skills</b> - Having the ability to cooperate with others in a team (Schiele, 2007)	.55
<b>Capacity to be empathetic</b> - Capacity to listen and understand (Stek & Schiele, 2021)	.54
<b>Listening</b> - Ability to listen to prospects and customers with complete attention and intent to understand what they say (Peesker et al., 2022)	.54
<b>Open-mindedness</b> - Willing to listen to, think about, or accept different ideas	.52
<b>Ability to resolve conflicts</b> - Being able to avoid and resolve conflicts (Stek & Schiele, 2021)	.51
<b>Loyalty</b> - Being faithful in professional life (Stek & Schiele, 2021)	.47
<b>Business ethics</b> - Ability to abide by internal and external ethical principles that the organization adheres to (Razmak et al., 2022)	.43
<b>Emotional intelligence</b> - Ability to manage your own emotions and understand the emotions of people around you (Kidwell et al., 2021; Peesker et al., 2022)	.40

<b>Personal skills</b> - Ability to perform well in the workplace, including how they manage themselves, perform their work, and interact with others (Razmak et al., 2022)	.40
<b>Social manners</b> - Being tactful, diplomatic, and having organizational sensitivity (Stek & Schiele, 2021)	.38
<b>Factor 5. Leadership and personnel management</b> ( $\alpha = .85$ , AVE = .04)	
<b>Leadership/ managing personnel</b> - Managing employees in teams (Stek & Schiele, 2021)	.68
<b>Managing change processes</b> - Ability to lead a team or group successfully through a change process.	.65
<b>Interviewing</b> - Ability to interview and select new salespeople for the team	.63
<b>Training personnel</b> - Actively giving structured training and education with the aim of improving the knowledge and skills of colleagues (Stek & Schiele, 2021)	.55
<b>Project management skills</b> - Ability to initiate, plan, execute, control, and close the work of a project team (Stek & Schiele, 2021)	.44
<b>Factor 6. Resilience and persuasiveness</b> ( $\alpha = .85$ , AVE = .04)	
<b>Coping with stress</b> - Ability to deal with stress (Habel et al., 2021; Kramer & Krafft, 2023; Peasley et al., 2020)	.72
<b>Poise</b> - Being (self)confident (Stek & Schiele, 2021)	.70
<b>Self-assurance</b> - Being assertive and having self-esteem (Stek & Schiele, 2021)	.65
<b>Resilience</b> - Ability to bounce back from setbacks and continue forward with optimism	.49
<b>Power of persuasion</b> - Having influential skills (Stek & Schiele, 2021)	.44
<b>Proactivity</b> - Being anticipatory, change-oriented, and self-initiated behavior in situations (Stek & Schiele, 2021)	.35
<b>Factor 7. Technological tools</b> ( $\alpha = .78$ , AVE = .04)	
<b>Salesforce automation tools</b> - Ability to use Salesforce automation tools (Agnihotri et al., 2023b; Mullins & Agnihotri, 2022)	.70
<b>Information technology tools</b> - Ability to use Information technology tools (Agnihotri et al., 2023b; Mullins & Agnihotri, 2022)	.66
<b>Salesforce management tools</b> - Ability to use Salesforce management tools (e.g. training, incentive, territory, quota management, etc.) (Agnihotri et al., 2023b; Mullins & Agnihotri, 2022)	.61
<b>Artificial intelligence tools</b> - Ability to use Artificial Intelligence tools (Agnihotri et al., 2023b; Mullins & Agnihotri, 2022)	.61
<b>Customer relationship management tools</b> - Ability to use Customer relationship management tools (Agnihotri et al., 2023b; Mullins & Agnihotri, 2022)	.61
<b>Social media tools</b> - Ability to use Social media tools (Agnihotri et al., 2023b; Mullins & Agnihotri, 2022)	.41
<b>Factor 8. Account planning and management</b> ( $\alpha = .85$ , AVE = .04)	
<b>Implementation planning</b> - Ability to plan the impact and timeline for the proposed solution to customers that meet their risk comfort level (Razmak et al., 2022)	.54
<b>Follow-up</b> - Ability to actively communicate with prospects and customers to convert leads and make satisfied customers more loyal (Marshall et al., 2003; Peesker et al., 2022)	.50

<b>Solution selling</b> - Ability to effectively sell a solution to an individual problem and concern (Tuli et al., 2007)	.50
<b>Business case development</b> - Ability to develop a business case to quantify how a solution impacts the customer's business, showing investment, benefits, and risks (Razmak et al., 2022)	.46
<b>Account management/ strategic selling</b> - Ability to use the tools and techniques to deal with all stakeholders efficiently and effectively (Razmak et al., 2022)	.43
<b>Factor 9. Sales process management</b> ( $\alpha = .86$ , AVE = .04)	
<b>Business and financial acumen</b> - Ability to understand and deal with a business/financial situation in a manner that is likely to lead to a good outcome (Razmak et al., 2022)	.45
<b>Orchestration</b> - Ability to externally and internally coordinate and influence customer touchpoints to facilitate and improve the customer journey (Badrinarayanan et al., 2018)	.45
<b>Prospecting</b> - Ability to search for potential customers, and move them through the sales funnel until they convert to customers (Peesker et al., 2022)	.44
<b>Entrepreneurial skills</b> - Ability to contribute to the success of the company by increasing the competitive advantage of unique resources (Botella-Carrubi et al., 2023; Peesker et al., 2022)	.44
<b>Funnel management</b> - Ability to manage the sales funnel and prospects to ensure revenue targets are attained (Razmak et al., 2022)	.41
<b>Industry research and value development</b> - Having specialised knowledge and experience in selling scientific or technical products (Razmak et al., 2022)	.40
<b>Holistic Thinking</b> - Ability to think and act holistically (Stek & Schiele, 2021)	.38
<b>Initial judgment</b> - Ability to evaluate the benefit-cost of opportunity to decide whether to pursue a prospect (Xu et al., 2021)	.36
<b>Factor 1. Data-driven decision-making</b> ( $\alpha = .84$ , AVE = .04)	
<b>Comprehension of complexity</b> - Ability to understand complex problems (Stek & Schiele, 2021)	.64
<b>Analytical skills</b> - Ability to break down and manipulate selling-related information into smaller data elements to solve day-to-day sales problems (Peesker et al., 2022)	.54
<b>Problem-solving</b> - Ability to handle difficult or unexpected situations	.54
<b>Process improvement</b> - Ability to improve existing business processes to optimize performance	.49
<b>Data-driven mindset</b> - Ability to make decisions based on data analysis instead of emotion and intuition	.47
<b>Decision-making</b> - Ability to make an informed, rational decision (Stek & Schiele, 2021)	.40
<b>Internal systems literacy</b> - Industry knowledge, specific account knowledge, and knowledge about the person salespeople are dealing with (Razmak et al., 2022)	.37
<b>Willingness to take risks</b> (Stek & Schiele, 2021)	.30
<b>Factor 11. Creativity and adaptiveness</b> ( $\alpha = .78$ , AVE = .04)	
<b>Creativity</b> - Being creative in professional life (Stek & Schiele, 2021)	.82
<b>Inventiveness</b> - Being imaginative (Stek & Schiele, 2021)	.72

<b>Adaptiveness</b> - Ability to alter sales behaviors during or across customer interactions based on perceived information about the selling situation (Peesker et al., 2022; Verbeke et al., 2010; Weitz et al., 1986)	.35
<b>Agility</b> - Ability to respond quickly and effectively to changes in the market or customer needs	.33
<b>Factor 12. Learning</b> ( $\alpha = .75$ , AVE = .04)	
<b>Willingness to learn</b> - Being professionally curious, and motivated to learn continuously (Stek & Schiele, 2021)	.65
<b>Learning agility</b> - Ability to continuously upskill and gain knowledge to adapt to change	.60
<b>Learning</b> - Ability to acquire new knowledge, such as new product knowledge, processes, or technologies (Peesker et al., 2022)	.59
<b>Personality characteristics development</b> - The ability to develop continuously the own soft skills, qualities, and traits (e.g. persuasiveness, creativeness, entrepreneurial, adaptability) (Stek & Schiele, 2021)	.33
<b>Factor 13. Customer understanding</b> ( $\alpha = .80$ , AVE = .04)	
<b>Cross-cultural awareness</b> - The ability to become aware of cultural values, beliefs, and perceptions of the own and other one's cultures (Stek & Schiele, 2021)	.52
<b>Personality identification and communication impact</b> - Ability to identify customer's personalities and make impactful communication (Razmak et al., 2022)	.48
<b>Social selling</b> - Ability to search, connect, and interact with prospects and customers on social media to build relationships with them (Razmak et al., 2022)	.46
<b>Conscientiousness</b> - Having environmental awareness; understanding what is going on (Stek & Schiele, 2021)	.41
<b>Customer engagement</b> - Ability to deliver connected experiences to customers through various channels to strengthen your relationship (Peesker et al., 2022)	.39
<b>Internal customer orientation</b> - Being focused on the internal customer or internal user group	.35
<b>Factor 14. Task prioritization</b> ( $\alpha = .69$ , AVE = .04)	
<b>Prioritization</b> - Ability to determine the most important and urgent tasks and how much time to allocate to each task	.81
<b>Multitasking</b> - Ability to manage multiple responsibilities at once (Stek & Schiele, 2021)	.71
<b>Result-orientated action-taking</b> - Aiming on effectiveness (Stek & Schiele, 2021)	.39

## B. Appendix B - Factors Of Salesperson Performances

	Factor loadings
<b>Financial performance</b> ( $\alpha = .86$ , AVE = .12)	
Contributing to my company's overall market share growth (Peesker et al., 2022; Sujan et al., 1994)	.60
Selling high profit-margin products or services (Peesker et al., 2022; Sujan et al., 1994)	.74
Generating a high level of sales revenue (Peesker et al., 2022; Sujan et al., 1994)	.80
Quickly generating sales of new company products or services (Peesker et al., 2022; Sujan et al., 1994)	.63
Identifying major accounts in my territory and selling to them (Peesker et al., 2022; Sujan et al., 1994)	.63
Consistently exceeding my sales targets (Peesker et al., 2022; Sujan et al., 1994)	.86
Helping my team/ sales unit meet the goals (Peesker et al., 2022; Sujan et al., 1994)	.43
<b>Customer relationship performance</b> ( $\alpha = .83$ , AVE = .11)	
Listening attentively to identify and understand the real concerns of my customers (Hunter & Perreault, 2007)	.60
Building my customer's business with my products or services (Hunter & Perreault, 2007)	.60
Working out solutions to a customer's questions or objections (Hunter & Perreault, 2007)	.68
Working with customers to help them improve their profitability (Hunter & Perreault, 2007)	.55
Working with buyers to develop a partnership that's profitable to both firms (Hunter & Perreault, 2007)	.59
Being able to offer at prices lower than the competition (new)	.59
Working with customers to reduce the total costs (new)	.62
Ensuring my company's resources are fully dedicated to satisfying my particular customer(s)' needs (new)	.51
<b>Administrative performance</b> ( $\alpha = .82$ , AVE = .10)	
Getting required "paperwork" done (Hunter & Perreault, 2007; Sundaram et al., 2007)	.82
Addressing my administrative responsibilities in a timely manner (Hunter & Perreault, 2007; Sundaram et al., 2007)	.80
Submitting required reports on time (Hunter & Perreault, 2007; Sundaram et al., 2007)	.81
Achieving good expense management (Hunter & Perreault, 2007; Sundaram et al., 2007)	.57
Planning my activities efficiently (Hunter & Perreault, 2007; Sundaram et al., 2007)	.73
<b>Cost performance</b> ( $\alpha = .84$ , AVE = .09)	
Due to my actions, we achieved higher-than-average cost reductions (Stek & Schiele, 2021)	.83

## Customer Management Skills in Digitalizing B2B Markets



Compared with other departments, my department achieved higher-than-average reductions in costs (Stek & Schiele, 2021)	.86
The reductions in costs achieved in my department are considerably higher than our goals (Stek & Schiele, 2021)	.84
<b>Innovation performance</b> ( $\alpha = .78$ , AVE = .08)	
Due to my actions, product and process improvements have been implemented (Stek & Schiele, 2021)	.84
Due to my actions, we achieved more product and process improvements than average (Stek & Schiele, 2021)	.82
Due to my actions, we identified more useful ideas with customers than the benchmark (Stek & Schiele, 2021)	.68
The product and process improvements achieved in my department/company are considerably better than expected (Stek & Schiele, 2021)	.45
<b>Delivery performance</b> ( $\alpha = .74$ , AVE = .07)	
Due to my actions, we improved the supply delivery process to my customers (Stek & Schiele, 2021)	.58
My team/ sales unit outperforms the benchmark with other products, my product achieved higher supply delivery goals (Stek & Schiele, 2021)	.34
The improvements in delivery performance of products achieved in my team/ sales unit are considerably higher than our goals (Stek & Schiele, 2021)	.59
I manage to ensure that my customers receive priority treatment with my firm's production scheduling/ logistics (new)	.69
During crisis time (C19/Ukraine), I managed to ensure a smooth supply to my customers (new)	.55

### C. Appendix C - NCA Bottleneck Tables (Percentiles)

	Account planng. & mng.	Comm. & relation- building	Creativity and adaptive.	Inter- organization skills	Data- driven	People skills	Leader & person mng.	Learning	Customer understand	Task prioritize	Resilience & persuasive	Sales process mng	Basic selling skills & knowldg.	Tech tools
Financial performance bottleneck														
0%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
10%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
20%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
30%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
40%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
50%	0.3	0.6	NN	NN	0.3	NN	NN	NN	NN	NN	NN	NN	NN	0.3

## Customer Management Skills in Digitalizing B2B Markets



	Account planng. & mng.	Comm. & relation- building	Creativity and adaptive.	Inter- organization skills	Data- driven	People skills	Leader & person mng.	Learning	Customer understand	Task prioritize	Resilience & persuasive	Sales process mng	Basic selling skills & knowldg.	Tech tools
60%	0.3	0.6	NN	NN	0.3	NN	0.3	NN	NN	NN	NN	0.3	1.3	0.6
70%	0.6	1.9	NN	0.6	0.3	NN	1.9	0.3	0.6	NN	0.3	0.9	3.1	1.3
80%	3.5	6.9	0.6	3.8	1.3	NN	3.8	5.3	0.9	4.1	1.6	2.8	11.0	1.6
90%	19.8	23.0	8.8	17.9	9.7	2.5	6.9	12.9	7.2	9.4	5.3	4.7	27.7	3.5
100%	60.7	49.4	50.3	38.1	39.6	23.9	14.8	35.2	24.8	33.0	24.8	11.0	50.0	5.7
Customer relationship performance bottleneck														
0%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
10%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
20%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
30%	0.3	0.3	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
40%	0.3	0.6	NN	NN	0.3	NN	NN	NN	NN	NN	NN	NN	NN	NN
50%	0.3	0.6	NN	NN	0.3	NN	NN	NN	NN	NN	NN	NN	NN	NN
60%	0.3	0.9	NN	NN	0.3	NN	NN	NN	NN	NN	NN	NN	NN	0.3
70%	1.9	1.9	1.3	0.9	0.6	0.3	NN	1.9	0.6	NN	0.3	0.6	0.3	1.3
80%	4.4	2.8	8.2	8.2	8.5	1.6	2.2	9.4	1.3	0.9	1.9	0.9	1.6	5.0
90%	16.4	10.4	33.6	30.8	35.8	3.1	10.7	31.8	5.3	8.2	11.3	3.1	4.4	12.3
100%	46.9	22.0	73.0	62.3	70.8	8.2	38.4	55.0	14.5	28.3	39.9	7.2	15.4	22.6
Administrative performance bottleneck														
0%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
10%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
20%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
30%	NN	NN	NN	0.3	NN	NN	NN	NN	NN	NN	0.3	NN	NN	NN
40%	NN	NN	NN	0.6	NN	0.3	0.3	NN	NN	NN	0.3	NN	NN	NN
50%	0.3	0.3	NN	0.6	0.3	0.3	0.3	NN	NN	NN	0.3	NN	NN	0.3
60%	0.3	0.3	NN	0.6	0.3	0.6	0.6	0.3	NN	NN	0.3	NN	0.3	0.3
70%	0.3	0.3	NN	0.9	0.3	0.9	1.3	0.6	0.6	2.2	0.3	NN	0.3	0.3
80%	1.6	0.3	0.3	1.3	0.3	1.9	1.9	1.9	1.3	5.3	0.3	NN	0.3	0.6

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	Account planng. & mng.	Comm. & relation- building	Creativity and adaptive.	Inter- organization skills	Data- driven	People skills	Leader & person mng.	Learning	Customer understand	Task prioritize	Resilience & persuasive	Sales process mng	Basic selling skills & knowldg.	Tech tools
90%	4.1	0.3	2.8	2.5	0.3	2.5	2.2	3.5	13.2	9.4	0.3	2.5	0.3	0.6
100%	13.2	0.3	11.0	3.8	0.9	2.5	2.8	6.0	44.0	20.4	0.3	26.7	0.9	1.3
Innovation performance bottleneck														
0%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
10%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
20%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
30%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	0.3	NN	NN
40%	NN	NN	NN	NN	0.3	NN	NN	NN	NN	NN	NN	0.3	NN	NN
50%	0.3	NN	NN	NN	0.3	NN	NN	NN	NN	NN	NN	0.9	NN	NN
60%	0.3	0.3	NN	NN	0.3	NN	NN	NN	NN	NN	NN	0.9	0.3	NN
70%	0.3	0.3	NN	NN	0.3	0.3	NN	NN	NN	NN	0.3	0.9	1.3	NN
80%	0.9	0.3	NN	NN	3.8	0.6	NN	NN	NN	2.5	0.3	2.5	2.2	NN
90%	3.5	0.3	7.5	6.3	12.3	1.3	2.2	9.1	0.9	8.5	2.5	2.8	4.7	5.7
100%	12.3	0.3	54.4	68.2	38.1	2.5	13.2	43.4	34.3	23.0	8.5	4.1	11.0	36.2
Delivery performance bottleneck														
0%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
10%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
20%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
30%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
40%	NN	0.3	NN	NN	NN	0.3	NN	NN	NN	NN	NN	NN	NN	NN
50%	0.3	0.6	NN	NN	NN	0.3	NN	NN	NN	NN	NN	NN	NN	NN
60%	0.3	0.6	NN	NN	0.3	0.3	NN	NN	NN	NN	NN	NN	NN	NN
70%	0.9	1.9	NN	0.6	0.3	0.9	0.3	NN	0.6	NN	0.3	0.9	NN	NN
80%	4.7	6.0	1.6	4.1	0.6	1.3	4.1	0.6	3.5	NN	0.3	4.7	1.6	NN
90%	30.5	20.8	2.8	26.4	9.4	1.9	19.5	1.9	17.6	6.6	2.2	20.8	6.6	1.3
100%	72.0	42.5	8.8	61.0	44.0	2.5	67.3	4.4	50.0	41.8	7.5	56.6	34.0	88.4
Cost performance bottleneck														



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	Account planng. & mng.	Comm. & relation- building	Creativity and adaptive.	Inter- organization skills	Data- driven	People skills	Leader & person mng.	Learning	Customer understand	Task prioritize	Resilience & persuasive	Sales process mng	Basic selling skills & knowldg.	Tech tools
0%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
10%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
20%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
30%	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
40%	NN	0.6	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
50%	0.3	0.6	NN	NN	NN	NN	NN	NN	0.3	NN	NN	NN	NN	NN
60%	0.3	0.9	NN	0.3	0.3	NN	0.3	0.3	0.6	0.9	NN	NN	NN	0.3
70%	0.9	2.2	1.9	1.3	0.3	0.3	2.8	0.3	1.3	4.1	0.3	0.9	1.6	0.6
80%	6.0	9.1	8.5	6.9	2.5	3.1	8.5	0.3	5.3	8.2	2.8	2.5	3.1	1.9
90%	36.8	24.5	30.5	22.6	18.9	15.7	26.4	0.3	14.5	9.7	17.6	5.3	11.0	5.7
100%	82.4	45.3	64.8	42.8	60.7	49.7	58.2	0.6	28.0	20.8	46.9	15.4	28.6	10.4

Note: Insignificant outcomes of the NCA are displayed in grey font.

NN means no level of skill is required to achieve that level of performance.

## E. Glossary

B2B Business to Business

CustMaS Project Customer Management Skills in Digitalizing B2B Markets

IO Intellect Output in Project CustMaS