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RESEARCH

Examining Expertise Differences in Retail Sales: A Script-based Analysis of Customer Interactions

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Abstract

Understanding how salespeople structure and reason through customer conversations is central to explaining expertise in sales, yet research is lacking about their cognitive representations. This study investigates how salespeople at different levels of expertise conceptualise a typical sales interaction and how their underlying cognitive structures vary across expertise levels ($N=33$). Using a script-elicitation method, we analyse how novices, experienced professionals and experts describe the sequence and content of salesperson–customer interactions. Analyses focused on the sequence, emphasis, and knowledge components of their verbally described scripts. The findings reveal differences in mental representations: novices rely on formal, rule-based procedures; experienced professionals integrate situational and case-based adaptations; experts demonstrate intuitive, context-sensitive reasoning. The findings highlight how professional cognition in sales becomes increasingly flexible and adaptive with experience and contribute to a deeper understanding of expertise development in customer-oriented domains.

Keywords Expertise · Sales performance · Knowledge restructuring · Script elicitation

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Introduction

In the dynamic and client-centered domain of retail sales, professional performance relies not only on product knowledge but on the salesperson's ability to navigate complex customer interactions (Chaker et al., 2025). Salespeople must quickly assess what the customer is looking for (Kim & McFarland, 2024), even when the customer may not articulate this clearly. Thus, the central professional challenge in this context is to accurately assess what the customer wants and to reconcile potential discrepancies between what the customer desires and what the salesperson knows about the available products (Arndt et al., 2018). Accordingly, professional competence in retail sales involves far more than technical knowledge: it requires the coordinated application of knowledge and communicative skill in situ.

Extensive research in the sales domain has emphasised the role of adaptive selling, typically defined as the salesperson's ability to adjust their communication style, interaction strategy, and product framing in accordance with customer characteristics and situational demands (McFarland, 2019). In high-involvement retail contexts such as furniture sales, where decisions are both consequential and individualised, adaptive communication becomes particularly important (Koponen et al., 2019). Here, successful performance relies on explaining product features and on navigating the customer conversation by eliciting needs, anticipating concerns, managing uncertainty, and guiding decision processes in real time (Claro et al., 2024). The central professional challenge is therefore integrative and consists of combining product knowledge with interactional competence in a manner that is responsive to the evolving situation (Verbeke et al., 2011). Despite extensive discussion of adaptive selling, we lack a clear understanding of how the knowledge supporting adaptive communication is organised across expertise levels in retail sales (Chaker et al., 2025).

Therefore, the present study examines how novices, experienced professionals, and experts in retail sales conceptualise a typical salesperson–customer interaction. Using a script-elicitation approach, we analyse how participants structure the interaction, where they place emphasis, and which knowledge components they activate. We also investigate how salespeople describe the learning activities that have shaped their ability to navigate customer interactions. Taken together, these analyses provide insight into the cognitive representations that underlie professional performance in retail sales.

Theoretical Framework

Customer Interaction as the Core Professional Task in Retail Sales

Customer interaction constitutes the central professional task in retail sales and forms the context in which product knowledge and communication skills must be coordinated (Chaker et al., 2025). Salespeople are required to interpret goals and constraints, reason about customer intentions, and manage the unfolding interaction in ways that support decision-making (Gonzalez & Claro, 2019).

In retail sales, customer interactions are ill-structured: Customers may arrive with only partially articulated preferences, changing needs, or limited awareness of product constraints (Köhler & Rausch, 2022). These conditions place considerable cognitive demands on salespeople, who must elaborate on existing knowledge, combine new information, generate interpretations, and adjust the conversational trajectory accordingly (Arndt et al., 2018). Two components underpin effective customer interaction: (1) the organisation and application of product knowledge, and (2) the navigation of customer communication (Koponen et al., 2019).

Product Knowledge as Fundament for Customer Interaction

Product knowledge, which includes a salesperson's understanding of product features, materials, constraints, compatibility, and value propositions, serves as the informational basis for interpreting customer needs and generating tailored recommendations (Mitchell, Mitchell et al. 2017a, b). Given the diversity of customer needs, salespeople must understand the company's assortment and the competitive advantages relative to alternatives in the market in order to reach acceptable performance (Gonzalez & Claro, 2019).

Since decades sales research has examined product knowledge, often referred to as technical knowledge as a determinant of sales performance (Valenzuela-Fernández & Villegas Pinuer, 2025). Salespeople with strong product knowledge close sales more effectively because they provide higher perceived value and reduce customer uncertainty as mentioned in Verbeke et al.'s (2011) meta-analysis. Product knowledge improves customer trust, satisfaction, and willingness to buy by enabling salespeople to respond effectively to questions (Koponen et al., 2019). Two forms of knowledge are central in relation to the product: theory-based knowledge, referring to accurate information about product attributes, and experience-based knowledge, which stems from repeated interactions with products and customer cases. Both types are essential for interpreting customer concerns and mapping them onto relevant product solutions. Consequently, knowledgeable salespeople are more skilled in managing and controlling the experience journey of each customer (Peñalba-Aguirrezabalaga et al., 2021).

Although product knowledge is a determinant for achieving high performance in sales, research consistently shows that knowledge alone is not sufficient (Claro et al., 2024). Salespeople who possess strong product knowledge but lack the ability to adapt their communication perform significantly worse than those who integrate knowledge with flexible, customer-oriented interaction strategies (Gonzalez & Claro, 2019). Studies further demonstrate that while product knowledge enables salespeople to recognise situational cues, superior performance emerges only when such knowledge is embedded in cognitive structures that support adaptive selling behaviours (Leigh et al., 2014; Leong et al., 1989).

Taken together, these findings indicate that product knowledge is a necessary but not sufficient condition for sales success. Rather, it must be coupled with adaptive communication and flexible cognitive processes to translate technical understanding into effective selling behaviours (McFarland, 2019).

Navigating Customer Communication

While product knowledge provides the informational basis for decision-making, navigation of customer communication determines how this knowledge is used within the interaction (Koponen et al., 2025). Managing the sales conversation involves eliciting needs, interpreting verbal and nonverbal cues, managing uncertainty, adapting communicative strategies, and guiding customers through decision processes (Leigh et al., 2014). These activities align with the construct of adaptive selling, which emphasises the salesperson's ability to adjust communication style, interaction strategy, and product framing to the characteristics of the customer and the situation (McFarland, 2019).

Navigating communication is cognitively demanding because customer goals remain ambiguous or fluctuate during the interaction (Köhler & Rausch, 2022). Salespeople must simultaneously listen, interpret signals and handle objections, regulate conversational pace, and ensure alignment between customer preferences and product possibilities (Alavi et al., 2019; Itani et al., 2019). Effective navigation requires a coordination of interpretive skills and knowledge access; it is not simply a sales monologue but a two-way communication that integrates what the salesperson knows with what the customer expresses or implies (Alnakhli et al., 2020).

In retail sales, the salesperson–customer conversation involves multiple steps: (1) preparation, (2) welcome and greeting, (3) need identification, (4) solution presentation, (5) pricing, (6) closing, and (7) follow up. Each of these steps can vary in execution and focus depending on the customer's goals, communication style, situational factors and skillset of the salesperson. These steps can function as a script, a blueprint of what to do in a sales interaction. Analysing verbalised scripts enables comparative insights across and within expertise groups in key dimensions such as script depth (Ericsson & Simon, 1993), the balance between theory-based and experience-based knowledge (Boshuizen et al., 2020), and the presence of adaptive behaviours like sequence flexibility and case-based reasoning (Mitchell et al. 2017a, b).

Yet despite the established relevance of adaptive communication for sales performance, we still lack a clear understanding of how the knowledge supporting adaptive communication is organised across expertise levels in retail sales. This motivates a more detailed examination of how knowledge is cognitively structured and restructured that underpins sales performance. This gap motivates the second part of our theoretical framework: understanding how salespeople reach superior levels of customer interaction and what cognitive differences distinguish salespeople across different levels of expertise.

How Salespeople Reach Superior Performance in Customer Interaction

Following Ericsson and Lehmann (1996), expert performance can be understood as "consistently superior performance on a specified set of representative tasks for a domain" (p. 277). In retail sales the salesperson-customer interaction is such a representative task that covers the essence of the domain and is the crucial activity for every salesperson to master in order to be successful (Koponen et al., 2025). To reach a solid professional level, salespeople gain experience but what distinguishes good

salespeople from the ones with expert performance? Or is it just sufficient to be long enough in the profession?

Expertise Differences and Why Experience is Not Enough

Research has constantly shown that although experience is necessary for developing competence in any profession, time alone on the job is not sufficient for achieving expert performance (e.g. teaching: Jossberger et al., 2025; Krauss et al., 2025).

When retail salespeople enter the profession, much of their initial learning occurs through trainer-led structured training at the workplace, shadowing, and observing experienced colleagues during customer interactions. Vocational school provision varies across federal states and does not consistently include sales skills training. These early work experiences enable novices to master basic procedures and begin forming initial knowledge structures about customer needs and selling strategies (Sharma et al., 2000). Over time, this repeated exposure allows routine tasks to become increasingly automated, reducing errors and cognitive effort (Billett et al., 2018). However, this progression often leads to a performance plateau (Ericsson, 1998). This means, once salespeople reach a level of acceptable performance, many no longer adjust or refine their routines, resulting in stable but unchanging performance over extended periods (Gruber & Harteis, 2018). Automation supports efficiency for familiar tasks, but it can also limit the development of flexible, context-sensitive knowledge structures which differentiate consequently experienced individuals from experts. In contrast, expert performers do not rely solely on accumulated experience. They continue to actively extend and revise their cognitive representations by engaging in demanding learning opportunities, seeking feedback, and reflecting on their performance (Boshuizen et al., 2004). These individuals deliberately push beyond established habits to strengthen the mechanisms that govern planning, monitoring, and adapting their actions and engage in purposeful practice (Taylor et al., 2024).

While routine experience fosters efficiency, expertise requires the development of integrated and adaptable knowledge structures that support flexible interpretation (Mylopoulos & Woods, 2017), nuanced judgment (DiBello, 2020) and precise adaptation to customer-specific situations (Kim & McFarland, 2024). Thus, the critical difference between experience and expertise lies not in the accumulation of practice hours, but in how knowledge is restructured through learning and purposeful practice (Strasser & Gruber, 2015).

Building on this distinction, recent research examining the cognitive architecture of expertise provides insight into how such knowledge restructuring occurs (Boshuizen et al., 2020). However, sales research still offers limited analyses of the cognitive underpinnings of adaptability across expertise levels (Locander et al., 2020). While some studies have identified the importance of specific skills or behaviours, few have offered in-depth analyses of how scripts are organised and processed (Leigh et al., 2014). This gap is particularly salient in understanding how unsuccessful or less effective yet experienced professionals differ from their more successful counterparts, despite similar levels of exposure and practice in the field.

Knowledge Restructuring Across Expertise Groups

Script theory provides a framework for articulating these representational changes. Scripts structure knowledge for recurring situations and guide perception, reasoning, and action (Schank & Abelson, 1977). Evidence from related professions shows that with experience, scripts are restructured case by case, shifting from rigid, rule-based procedures to flexible, experience-based cognition that supports intuitive decision-making (Custers, 2015; Nievelstein et al., 2008; Wolff et al., 2021). In sales research, however, the organisation and restructuring of underlying knowledge has received less attention than behaviours and performance metrics, leaving a gap in understanding how adaptive communication is cognitively supported, particularly across expertise levels (Chaker et al., 2025).

As individuals repeatedly engage in similar interactions, regularities are encoded into mental representations without conscious effort, leading to increasingly differentiated and context-sensitive scripts (Goller & Billett, 2014). When a task or problem arises for which a script has been established, the schema is activated, and the central aspects of the script (e.g., salesperson shows customer furniture) become available, while less central aspects take the form of gaps that can be filled with case-specific information (e.g., customers are a young couple with two kids). The situation-specific pieces of information are then tagged to the general script, stored in memory, but over time become less prominent. Since a script retains sequences from past experiences, the salesperson does not need to relearn the specific steps repeatedly. This allows them to utilise their cognitive resources to refine the script, incorporating new steps to enhance the effectiveness of customer interactions.

Script formation is thus a byproduct of domain experience and case processing, not an intentional design effort by the learner (Ericsson, 2018). As the salesperson's scripts become richer and more situational, a cognitive shift enables this fluency: knowledge encapsulation (Boshuizen et al., 2020). Knowledge encapsulation is a learning mechanism in which numerous lower-level propositions, concepts, and their interrelations in an associative network are subsumed under a smaller set of higher-order propositions that retain equivalent explanatory power (Rikers et al., 2000).

This shift explains why expert sales communication seems both faster and more tailored. Instead of mentally traversing exhaustive product checklists, the expert recognises diagnostic cues (goals, constraints, preferences), triggers a compact value bundle from memory, and recombines it to fit the customer's context (Chaker et al., 2025). For example, whereas a novice mentally runs a step-by-step checklist (features, dimensions, materials, price), an expert, upon hearing cues such as "small kids," "limited space," and "weekend delivery," immediately retrieves an encapsulated value bundle like durable, easy-clean, modular sofa plus staged delivery and a stain-guard upsell. In this instance of knowledge encapsulation, detailed specifications and rules are subsumed into higher-order, cue-linked representations that can be rapidly adapted to the customer's language without traversing each specification (Boshuizen et al., 2020). In other words, expertise is not only knowing more but knowing differently and at the right time (Van de Wiel, 2017). Encapsulation is the mechanism that feeds and refines the scripts described above, linking cue recognition to rapid, context-sensitive communication (Schmidt & Rikers, 2007).

Feedback, both formal (e.g., sales metrics, customer reviews) and informal (e.g., customer reactions) enables refinement of mental models, guiding which elements are retained, modified, or discarded over time (Köhler & Goller, 2024). Consequently, there are individual differences in scripts because of (1) more experience and a greater knowledge base and (2) how scripts are structured (Strasser & Gruber, 2015). Regarding structure and as stated earlier, scripts in the ill-structured domain of sales are not rigid, predefined templates but adaptive cognitive resources cued automatically by early contextual features and shaped by ongoing interactional demands of the sales conversation (Locander et al., 2020). As salespeople encounter diverse customers, their ability to recognise patterns, draw on prior cases, and adapt responses improves, resulting in greater effectiveness in customer conversations (Zhou & Charoensukmongkol, 2022). A hallmark feature of developing expertise is the shift from linear, taught routines to adapting actions and knowledge in real-time to unexpected situations and complex interactions (Groenier et al., 2025; Pelgrim et al., 2022). Therefore, the architecture of scripts is crucial for understanding expertise (Custers, 2015). As salespeople accumulate cases, they increasingly recognise patterns and retrieve encapsulated, cue-linked knowledge bundles, which supports rapid reconfiguration of the interaction path (Boshuizen et al., 2020). This line of work implies that sequence is not a neutral container for content; it is itself a control variable by which adaptive expertise is enacted.

Furthermore, development involves a rebalancing from explicit, theory-based elements toward case-informed, experience-based, often encapsulated elements that integrate constraints and social cues. That is, a change in what is being activated, not only how it is sequenced (Boshuizen et al., 2020; Mylopoulos & Woods, 2017). Strasser and Gruber (2015) show a related pattern in counseling: experts' knowledge is organised in script-like structures that integrate declarative concepts with case features; they provide more generalised case information and make more experience-based connections than novices, whose accounts remain more theory-driven and explicit.

Aim and Research Questions

We are interested in how salespeople with varying expertise differ and how they describe the organization of customer interaction. Sales research has documented behaviours related to performance, yet comparatively few studies analyse the underlying mental representations that enable adaptability, and fewer still compare such representations across expertise levels using minimally constrained approaches. Early work in sales shows the feasibility of script-based analyses (Leong et al., 1989), and expertise research in other domains links performance to script restructuring and encapsulation. However, the sales domain lacks a detailed account of (a) how sequence, selective emphasis, and knowledge components vary by expertise when professionals describe a typical interaction, and (b) how practitioners attribute their learning, including which activities they regard as consequential for developing adaptive communication. Addressing these gaps clarifies what changes in cognitive organisation with experience and indicates where instruction should target restructur-

ing rather than mere accumulation of routines. Building on prior research, we propose the following research questions:

- RQ1: How do the structure and content of verbalised scripts for a typical sales interaction differ across novices, experienced professionals, and experts, with respect to sequence, selective emphasis, and knowledge components?
- RQ2: Which learning activities do salespeople identify as shaping their sales competence, and how do these reports vary across expertise groups?

Method

Design

The study adopts a qualitative research design based on a contrastive approach between three groups of salespeople representing different levels of expertise (novices, experienced professionals, and experts). The purpose of this design is to identify systematic differences in how salespeople cognitively organise and conceptualise salesperson–customer interactions. Data were collected using the method of script elicitation, which is particularly suited to capturing professionals' mental representations of recurring work-related activities. By asking participants to verbally reconstruct a typical salesperson–customer interaction, script elicitation provides access to how individuals structure, prioritise, and interpret their professional actions (Ericsson, 2018; Leong et al., 1989). The contrastive group comparison enables the identification of expertise-related differences in cognitive organisation while avoiding the imposition of predefined theoretical categories.

Participants

To examine how cognitive structures vary across levels of sales expertise, we sampled a group of 33 part-time and full-time furniture sales consultants from a medium-sized retail chain with approximately 800 employees across seven stores. Participants were assigned to one of three expertise-level groups based on years of experience, objective performance indicators, and managerial nomination. This multi-criteria approach was selected to align with current expertise research in ill-structured domains (Köhler & Rausch, 2022) and to increase construct validity when measuring professional expertise. The groups were defined as follows: Novices ($n = 10$) are salespeople with less than 18 months of sales experience, most of whom were enrolled in structured apprenticeship programmes. Inclusion in this group was based on tenure alone and not sales performance. Experienced Professionals ($n = 12$) are salespeople with 10 or more years of experience in furniture sales who had not met their annual sales targets in at least two years in a row prior to the study and Experts ($n = 11$) are salespeople with 10 or more years of experience who had exceeded their sales targets in the same time frame (see Table 1).

These individuals were nominated by their store managers and were routinely consulted in difficult customer situations, suggesting a high level of domain-specific

Table 1 Description of Sample Characteristics

	Novice (*N = 10;* 4 M, 6 F)		Experienced Professionals (*N = 12;* 7 M, 5 F)		Experts (*N = 11;* 8 M, 3 F)	
	M	SD	M	SD	M	SD
Age	19.40	2.55	52.33	6.34	47.55	10.31
Years of work experience	1.00	0.56	27.00	7.66	23.72	9.36
Tenure in years	1.06	0.74	9.20	6.33	9.30	8.91

trust and perceived expertise (Pelgrim et al., 2022). This grouping structure mirrors that of prior workplace expertise studies in commercial settings where experience length, manager recognition, and performance data are triangulated to identify expert performers in the absence of standardised domain-specific knowledge tests or ratings. While we acknowledge that mid-term performance targets are limited in scope, they remain a practical and context-relevant proxy in retail sales where no unified, validated expertise assessment currently exists. All participants volunteered to participate, provided informed consent, and confirmed that they met the inclusion criteria. Their responses were collected using a standardised script elicitation protocol, designed to reveal how knowledge is structured and applied in situationally rich, domain-representative tasks.

Instruments

To investigate participants' cognitive representations of salesperson–customer interactions, a script elicitation task was employed. This technique is grounded in script theory (Schank & Abelson, 1977) and follows the methodological precedent established by Leong et al. (1989), who used open-ended script elicitation to explore knowledge structures in professional sales contexts. The goal of this approach is to reveal not only the sequence of actions recalled by participants but also the implicit cognitive architecture that supports their decision-making and behaviour. Participants were instructed to verbalise the events, actions, and interactions that typically occur during a standard furniture sales encounter. The task prompt was as follows:

> You are just about to meet a customer who's considering buying furniture. We are keen to understand the events, activities, actions and behaviours that take place between you and your customer during the sales interaction. Please verbalise your own and your customer's actions and behaviours. List as many events, activities, actions, and behaviours as you think would typically occur in the situation. For your customer's activities, please list the common objections they might raise and outline how you would overcome them. Start the list with "preparation for the sales interaction" and end with "back to your desk after the sales interaction".

The standard sales interaction was selected as the elicitation scenario because it represents a core, recurring, and domain-representative task for furniture sales consultants. In accordance with expertise research (Ericsson, 2018), representative tasks are those that authentically reflect the perceptual, cognitive, and situational demands of everyday practice, thus allowing for valid inferences about cognitive processes

and knowledge application. While some critiques of this method suggest that such prompts may elicit general job descriptions rather than deeper cognitive representations, we argue that particularly in ill-structured, workplace-based domains routine narratives surface underlying scripts that include implicit decision rules, case-based reasoning, and adaptive strategies (Boshuizen et al., 2020; Köhler & Rausch, 2022). Furthermore, since no two problems are precisely the same, the distinction between the routine and the novel often fades (Gegenfurtner et al., 2024). To extend the elicitation and support interpretation, participants were subsequently asked open-ended follow-up questions regarding their learning practices, critical decision points during the interaction, and tasks perceived as cognitively demanding. These follow-ups were designed to provide additional insight into the structure and development of domain-specific knowledge and learning.

Procedure

Sessions with each participant were scheduled in either their natural work setting at the furniture store or over the phone. Participation was voluntary and their verbal consent was obtained. The prompt used for elicitation is of particular interest in this study as it determines what information will be activated and verbalised to be relevant regarding the salesperson-customer interaction depicting potential differences across expertise levels. The interview data was recorded and transcribed verbatim. In total, 6.5 h of audio recordings were collected with a mean duration of 11.76 min ($SD = 4.90$ min) per interview.

All interviews were conducted by the first author, who holds a degree in human sciences and brings professional experience in structured and semi-structured interviewing techniques, ensuring consistent and methodologically sound data collection across participants.

Analysis

The transcribed sales conversation elicitations were segmented into propositions and categorised using a coding system. The complete description of the category system is shown in Table 2. To ensure accurate data coding, coders were provided with detailed instructions and item illustrations for each category. Two independent raters categorised the statements. Any discrepancies were resolved through discussion until consensus was achieved.

A thematic cross-case analysis (Miles & Huberman, 1994) was conducted to compare participants' *sales interaction sequences* across expertise groups. Each script was segmented and scored using a three-level ordinal system (0 = not mentioned, 1 = mentioned, 2 = elaborated) for each phase of the sales interaction. These scores were aggregated to form composite profiles of script complexity and depth per group. Additional coding dimensions captured the use of *theory-based* versus *experience-based knowledge components*, as well as the presence of *case-related statements* (e.g., references to specific past situations, generalised experience, or explanatory statements). The cross-case comparison revealed both shared and divergent cognitive structures among participants, highlighting developmental differences in script

Table 2 Coding of the Data

Main Category	References to Sales Interaction Sequences	
Sub-categories	Preparation	References to physical or mental preparation before the customer sales-person interaction
	Welcome & Greeting	References to customers entering the store and initiation of interaction
	Needs Analysis	References to uncovering buying needs
	Solution Presentation	References to presenting products to the customer
	Pricing	References to pricing, price negotiations
	Closing	References to closing the deal, setting up the contract, etc.
	Follow Up	References to following up with the customer to continue sales interaction or share information
Main Category	References to Knowledge Components	
Sub-categories	Theory-Based Knowledge Components	Statements that refer to rational characteristics (analytic, intentional, effortful, logical, cause and effect, connections, behaviour mediated by conscious appraisal of events)
	Experience-Based Knowledge Components	Statements that refer to experiential characteristics (holistic, automatic, effortless, emotional/affective, associative connections, organised in part by emotional complexes, context-specific processing)
Main Category	References to Case Statements	
	Recent Case Statements	Statements related to a case the salesperson was currently handling or had recently completed
	Generalised Case Statements	Statements that referred to summarised case experiences rather than specific instances. To be considered a generalised case, a statement needed to include the typical characteristics and the likely progression of a case.
	Explicative Statements	Statements that define or explain an event, person or situation in the sales interaction
	Enabling Conditions	Statements that pertain to contextual background factors (such as environmental characteristics, living conditions, and customer habits) linked to the initiation of a sale

elaboration, knowledge use, and professional judgment. In addition, the sales interaction scripts were analysed according to the coding categories: *knowledge components* that distinguish between theory-based and experience-based knowledge components, and *case-related statements* (e.g. recent, generalised, explicative and enabling conditions) to identify differences.

Furthermore, a categorisation was made including learning from others (colleagues/customers), product training, sales training, visiting factories/trade fairs, vocational school, learning by doing and reading professional literature to highlight variations of learning preferences across expertise groups. The categorisation of learning activities emerged inductively from the participants' responses, allowing patterns and themes to be identified without relying on predefined classifications (Mayring, 2021).

Results

The results are structured by the research questions. Differences in sales interaction scripts and learning strategies across novices, experienced professionals, and experts are presented through cross-case analysis, supported by illustrative protocol segments, composite figures, and frequency tables. Each participant received a coding following the logic of N for novice, EP for experienced professional and E for expert, plus a number.

RQ1: How do the Structure and Content of Verbalised Scripts for a Typical Sales Interaction Differ Across Novices, Experienced Professionals, and Experts, with Respect to Sequence, Selective Emphasis, and Knowledge Components?

The cross-case analysis of the script data revealed differences in how participants across expertise levels structured their mental representations of a standard sales interaction. Figure 1 reflects the relative emphasis each group places on different sales phases rather than their presence or absence. All groups engage with similar sequential phases, but differ markedly in where cognitive and narrative attention is concentrated, with novices over-representing procedural phases and experts compressing or bypassing steps in favour of customer-centred adaptation. All individual sales scripts were coded and scored (0 = not mentioned; 1 = mentioned; 2 = elaborated), then aggregated into composite profiles (see Fig. 1). Hence, the figure serves as a visual complement to the qualitative descriptions that follow, enabling an at-a-glance comparison of proportional emphasis across expertise groups that would be difficult to convey through text alone.

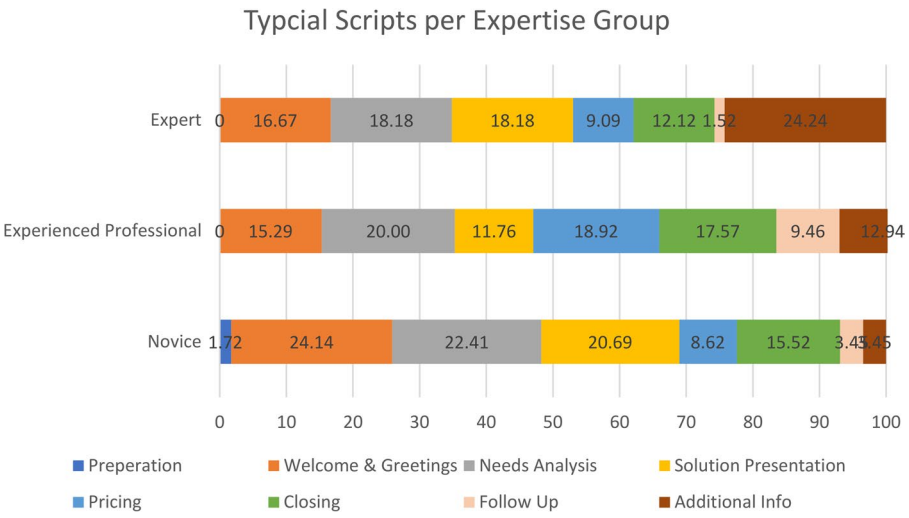

Fig. 1 Cross-Case Analysis for Typical Scripts for the Sales Process per Expertise Group. Scores represent aggregated emphasis per phase (0 = not mentioned; 1 = mentioned; 2 = elaborated). Higher values indicate greater narrative attention to that phase

The qualitative analysis of the verbal protocols revealed three overarching communication patterns that varied across expertise groups: (1) procedural-linear scripts, characterised by rule-based, step-by-step sequencing with limited contextual adaptation; (2) conditional-adaptive scripts, marked by if-then reasoning and context-sensitive adjustment to customer cues; and (3) intuitive-relational scripts, reflecting fluid, customer-centred interaction guided by affective and situational judgement. These patterns are described and illustrated with protocol excerpts in the sections below.

Novice participants typically constructed procedural and linear scripts, emphasising formal elements such as greetings, price explanation, and sales closing routines. Their narratives were grounded in rule-based logic, reflecting initial training and a reliance on company-defined steps.

> *"The customer comes around the corner. You greet them first. You ask if you can help, if they are looking for something specific."* (N5).

Beyond structural focus, novices included transactional or administrative details, such as loyalty programmes or pricing labels, suggesting an external focus on observable or taught elements rather than internalised strategy. For instance, one novice began with affective self-preparation:

> *"I make sure to have a pen, a folding rule, and a calculator ready… The most important thing is to stay positive."* (N1).

> *"What do the two price tags mean?… That's always the opening question."* (N7).

> *"Introducing them to our loyalty card… makes them more likely to return."* (N6).

Customer interaction was initiated through product-based engagement:

> *"If a customer sits on a sofa, I use that opportunity to engage… Then I ask if they like it."* (N2).

Closing routines were described in administrative terms, ending with "going back to the desk" (N8), underscoring a strong reliance on externally anchored process steps. In general, the sales process was seen as a series of checkpoints to complete rather than an adaptive exchange.

Experienced professionals displayed more variation in script elaboration, especially in the needs analysis and price negotiation phases. Their narratives were shaped by generalised experience and contained if-then decision logic, indicating a moderate level of adaptive reasoning.

> *"You don't want the customer looking for a wardrobe and you show them a bed because you didn't listen to them… Also, get feedback from the customer to find out if it tends towards what they like."* (EP8).

They also described recurring customer objections and the ways they adaptively manage resistance, signaling emerging internalisation of typical customer behaviours. Unlike novices, their scripts showed branching logic and context adjustment, particularly during needs assessment and price negotiation. One experienced consultant framed the customer dialogue with structured but flexible probing:

> *"You ask, what are you looking for?… Why a box spring bed? Do you want it because of the height?"* (EP1).

These scripts displayed if-then reasoning and anticipated objections:

> *"If they say 3,000–3,500 euros, you might say that's tight. Then you see if the customer is shocked and you might need to step back."* (EP3).

Price negotiation was a common thread:

> *"When they don't want to decide right away, customers look for objections… Then you call your supervisor and say: 'What can we do?'"* (EP11).

> *"If the price doesn't fit, you see if they're shocked and either back off or call the supervisor."* (EP3).

While still grounded in sequences, these narratives reflected more experience-based reasoning and adjustment to customer signals than those of novices.

Experts, by contrast, deviated from stepwise script logic. Their verbalisations prioritised intuitive understanding, contextual interpretation, and affective dynamics. Rather than adhering to a scripted sequence, they described fluid interactions tailored to the customer's perceived preferences or emotional state.

> *"I decide spontaneously. It always depends on the type of person the customer is… You get a feel for how to start."* (E2).

These findings demonstrate a qualitative shift in script architecture across groups from rigidly sequenced knowledge structures in novices to highly individualised, context-sensitive reasoning in experts. Instead of moving through phases, experts described dynamic sensemaking guided by experience. One consultant described the opening of a sales interaction not in terms of greeting or product, but through felt alignment:

> *"You sit down together and talk about anything, not about the furniture."* (E2).

The transition into sales talk was framed as an organic shift:

> *"Eventually, you get to it, and then it's my job to make the customer realise that this is a great sofa."* (E3).

These scripts were customer-centered involving affective insight and empathy:

"There's no set pattern for how I do it… It's just a knack, an intuition." (E7).

This group consistently framed their cognitive processing as automatic or experiential, not analytical:

"I can't explain it to you… I'm very good with people." (E6).

Analysis of the knowledge types activated during script reconstruction showed distinctions between groups (see Fig. 2). Novices relied on theory-based knowledge, explicitly referencing procedures learned during training. Experts activated primarily experience-based knowledge, which is described as intuitive or non-verbalised. Experienced professionals represented a transition, incorporating both knowledge types with varying degrees of integration.

Further qualitative coding examined participants' use of case-related knowledge (e.g., referencing past experiences, generalisations, or enabling conditions). Results show that case generalisation and reflection increased with expertise: (a) Novices referred to ideal types of customers or textbook situations, (b) Experienced professionals invoked typical objections and solution pathways and (c) Experts referenced complex or nuanced cases and employed metacognitive statements about what guided their reasoning. In terms of explicative statements, experienced professionals tended to offer surface-level clarification, while experts provided introspective, reflective explanations, often tied to emotional intelligence and customer perception.

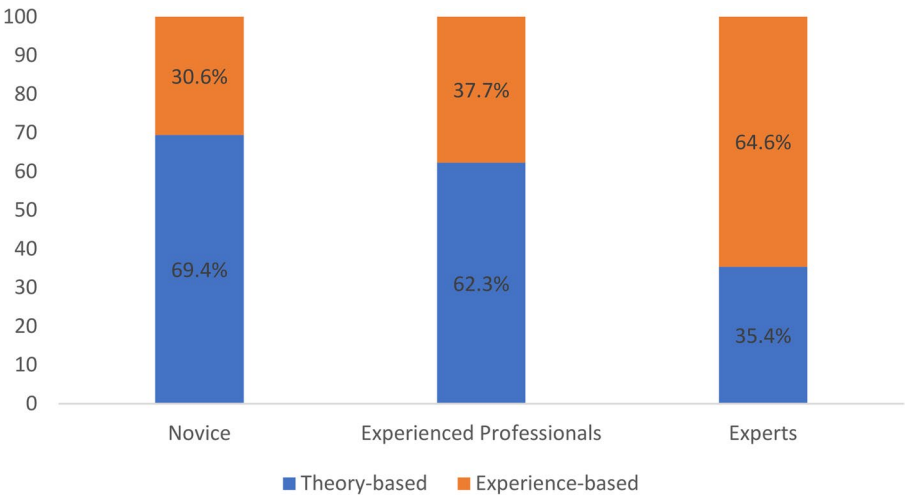

Fig. 2 Proportions of Theory-Based and Experience-Based Statements in Sales Interaction Scripts across Expertise Groups (Novices $n=10$; Experienced Professionals; $n=12$; Experts $n=11$). *Note*. Numbers indicate percentages reflecting the relative proportion of theory-based and experience-based coded statements within each expertise group, aggregated across all participants

Table 3 Overview of the Most Frequent Answers Concerning Learning Activities

	Novice (*N = 10)*	Experienced Professionals (*N = 12)*	Experts (*N = 11)*
	Ƒ (%)	Ƒ (%)	Ƒ (%)
Learning from others (colleagues/ customers)	8 (80%)	3 (25%)	1 (9.1%)
Product training	4 (40%)	8 (66.6%)	7 (63.6%)
Sales training	7 (70%)	1 (8.33%)	1 (9.1%)
Visiting factories/ trade fairs	2 (20%)	2 (16.6%)	4 (36.4%)
Vocational school	2 (20%)	0 (0%)	0 (0%)
Learning by doing	5 (50%)	2 (16.6%)	2 (18.2%)
Reading professional literature	3 (30%)	6 (50%)	10 (90.9%)
Nothing	0 (0%)	3 (25%)	0 (0%)

Numbers (*f*) indicate the frequency of participants reporting each learning activity per group; percentages reflect the proportion of participants within each group (binary coding: 0 = not mentioned, 1 = mentioned). Maximum $N = 33$

> *"Ultimately, it's not really about the sofa; it's about making the customer feel good."* (E8).

RQ2: Which Learning Activities do Participants Identify as Shaping their Sales Competence, and How do these Reports Vary Across Expertise Groups?

To explore learning processes, participants were asked to describe how they develop their sales competence. Their responses were categorised into seven modes: learning from others, product training, sales training, vocational education, factory visits, experiential learning (learning by doing), and reading professional literature. Frequencies were calculated by group (see Table 3).

Novice participants ($n = 10$) primarily relied on externally structured learning opportunities, particularly through observation and formal training. The most frequently cited methods were Learning from others (8 out of 10) and Sales training (7) and learning by doing (5):

> *"When colleagues are in a sales conversation and you notice, you naturally observe how they sell and close deals. You also ask them for tips, especially those who have been in this field for years."* (N5).

> *"You learn a lot in school. We also have internal training sessions here. And just trying things out yourself is important."* (N1).

Experienced professionals ($n = 12$) showed more diverse but also selective learning behaviours, often rooted in specific task demands or product domains. The most predominant strategies were Product training (8 of 12) and Reading professional literature (6):

"I improve myself by attending training sessions, particularly those offered by manufacturers… when you see how everything is produced with care, it becomes easier to explain why the products are expensive." (EP6).

Learning from others (3) and learning by doing (2) remained present but were less central. Notably, three participants stated they no longer engage in active learning, reflecting a potential plateau effect or reduced perceived need for continued development. This group appears to transition from externally guided learning toward content-driven engagement, though without the reflective self-direction observed in experts.

Experts ($n = 11$) described the most autonomous, situationally embedded, and metacognitively aware learning strategies. Their narratives highlighted learning as continuous, adaptive, and distributed across multiple modalities reading professional literature (10 of 11), product training (7) and factory visits/trade fairs (4):

"I get a lot of my professional knowledge from the internet. I read trade magazines… when new stock arrives, I immediately look into what's new and what we haven't had before." (E10)

"Sometimes, it's an experience for the customer that you can really tell them, 'I stood right next to it when this and that was being made.'"

Experts framed everyday customer encounters as opportunities for growth, highlighting the situated, reflective nature of their learning:

"We always have different customers, different people, and different situations. We can always react differently, and we must always react differently. It's never the same." (E10).

Unlike novices, who emphasised imitation, and experienced professionals, who focused on knowledge acquisition, experts engaged in contextual knowledge refinement, continuously connecting information to evolving customer demands and market trends.

Discussion

This study examined knowledge structures and learning preferences across levels of professional expertise in retail furniture sales. A qualitative approach using verbal protocols was applied to collect verbal data on furniture salespeople's mental representations of salesperson-customer interactions. Three expertise-level groups ($N = 33$) were compared to find out more about variations in verbalisations and the underlying cognitive structures. Additional questions were asked to collect qualitative and quantitative data. Although our analysis of the verbal protocols is primarily qualitative, we included quantitative descriptions of the data by tallying the number of utterances per coding category (Krippendorff, 2012). This frequency-based mapping enabled

the identification of patterns across expertise groups, while selected protocol excerpts served to illustrate how coded categories manifested within participants' narratives. Our research set out to contribute to expertise development in the domain of sales with a particular focus on cognitive processes. The findings align with theoretical accounts from knowledge restructuring (Boshuizen et al., 2020), adaptive selling (Chaker et al., 2025) and adaptive expertise (Pelgrim et al., 2022), which we will discuss subsequently in order to situate our study in the broader research context.

As indicated earlier, furniture selling is not charcaterised by routine tasks as customer interactions are dynamic and flexible and need to adapt their behaviours to given circumstances (Alnakhli et al., 2020). Adaptive selling is associated with high performance and it is an active research stream in sales and marketing literature (Chaker et al., 2025) but adaptive selling is not just a technique it is the visible tip of a cognitive restructuring. It emerges when scripts are restructured through experience, allowing salespeople to shift from protocol-driven execution to expert-level adaptation (Locander et al., 2020). Our data illustrate a similar progression in structure and flexibility of sales scripts across expertise levels and adaptive selling behaviours that evolve into flexible cognitive structures (Spiro et al., 2019).

In our study, novices verbalised linear, theory-based scripts that followed a step-by-step sales process. These scripts emphasised procedural correctness such as greeting customers, identifying needs, and price discussion but offered little in terms of abstraction or strategic adaptation and show limited knowledge reorganisation. Their narratives reflected limited integration of contextual cues, relying on surface-level features (e.g., loyalty card protocols). Koponen et al. (2019) highlight that for novices in customer-facing roles, initiating social interaction presents a significant cognitive challenge, often accompanied by limited procedural fluency which is also reflected in our data as the novice furniture sales consultants devote considerable narrative attention to the opening phase of the sales interaction. Building initial rapport and creating a strong opening might help them cope with the lack of product knowledge. This also resonates with the debate in teacher education, where content knowledge alone has been shown insufficient without the communicative competence to convey it effectively in interaction (Jossberger et al., 2025), a parallel that translates directly to sales. Product expertise must be complemented by adaptive customer-oriented communication as it is mutually important.

While the typical contrastive approach in expertise research focuses on novice and expert grouping, we added the experienced professionals to learn more about the underlying patterns derived from successful versus less successful sales professionals (Gruber et al., 2010). Experienced professionals exhibited hybrid scripts, combining structured sequences with contextual examples and customer behaviour cues. In general, scripts of experienced professionals contain more information about needs analysis avoiding overwhelming the customer, and pricing. Their scripts reflect practical knowledge gained through their everyday work activities, focusing on sequences of the sales process that are most relevant for them. Apparently for them, price is a crucial factor influencing a customer's decision to buy as highlighted in the verbalisations. Sales research has pointed out that putting focus on price instead of value creation leads to failed sales (Kassemeier et al., 2022; McGowan, 2021).

Age differences across expertise groups are inherent to expertise-based sampling, as novices are by definition early-career individuals while expertise accumulates over time. However, research demonstrates that cognitive processes associated with expertise development outweigh typical age-related effects: Schneider et al. (1993) showed that child chess experts outperformed adult novices on chess memory tasks, indicating that domain-specific knowledge restructuring rather than age drives expert performance.

Furthermore, they referenced recent sales cases, used conditional logic, and emphasised avoiding information overload for customers. This concern may in part reflect their own cognitive overload as research on salesperson information overload indicates that when salespeople themselves feel overwhelmed by product information and selling tasks, they tend to project this state onto customers and oversimplify the interaction, which undermines adaptive selling (Hunter & Goebel, 2008).

In contrast experts demonstrated the most differentiated script patterns. Their narratives were nonlinear, intuitive, and customer-centric. Rather than describing the different steps they focused on situational judgements like "reading" the customers, tailoring their message and responding dynamically. Schmidt and Boshuizen (1993), in a study on clinical reasoning, described this as step-skipping or short-cut phenomena, where experts bypass routine procedures and rely on encapsulated knowledge concepts enriched by years of practice. Similarly, our findings show that experts emphasised relationship building, affective cues, and adaptive presentation strategies, verbalising elements such as trust, empathy, and rapport building (Spiro et al., 2019).

A key marker of expert performance was the use of generalised and abstracted case knowledge (Ericsson, 2018). Experts demonstrated the ability to integrate and apply insights from prior experiences flexibly across contexts (Boshuizen & Schmidt, 1992). Experienced professionals referenced recent but often isolated cases, while novices rarely provided real customer examples at all. This trajectory from isolated to generalised case representation supports prior models of script evolution (Custers, 2015; Leong et al., 1989). Furthermore, experts displayed what Mitchell et al. (2017a, b) described as the ability to "see the whole" rather than operate within segmented task units which is a hallmark of conceptual restructuring in professional domains.

Our data also revealed marked differences in learning strategies that shift from reactive to proactive learning patterns (Van de Wiel et al., 2011). While novices relied primarily on externally guided learning formats (e.g. peer observation, sales training, and vocational education) and their learning was framed as acquiring procedural knowledge, in response to immediate performance demands, experienced professionals preferred targeted knowledge updates through product training and literature but showed variable engagement in self-directed learning. Experts demonstrated consistently high levels of self-regulated learning, with particular emphasis on professional reading, informal learning through customer interactions, and participation in trade fairs.

Interestingly, product training and reading professional literature appeared across all groups but their purposes diverged. Novices viewed them as tools for resolving knowledge gaps, while experts used them for strategic refinement and trend analysis. This supports the distinction between problem-solving orientation and deliberate practice in expertise development (Taylor et al., 2024).

In sum, all the conceptualisations highlight how experts flexibly adapt their knowledge and practices during salesperson-customer conversations. Adaptive expertise, cognitive flexibility across experts and knowledge encapsulation, each acknowledges a highly developed knowledge base that allows experts to restructure, condense, and recombine prior experiences into effective solutions.

Practical Implications, Limitations and Future Research Needs

Practical Implications

What do the results mean for instructional design and learning processes? The findings highlight the importance of tailoring instructional design to the developmental stage of sales professionals, in line with research on adaptive expertise (Hatano & Inagaki, 1986).

For novices, structured scaffolding such as product knowledge frameworks, procedural guidance, and opportunities for rehearsing social interactions within clear boundaries can support the development of routine expertise. Structured simulations and coached role-plays may serve as effective entry points for anchoring initial knowledge (Jossberger et al., 2022).

As salespeople gain experience, their learning environments should increasingly promote flexibility and abstraction, enabling them to move beyond routine efficiency. It is worth noting, however, that the development of such adaptive strategies currently appears largely dependent on the quality of company-specific training rather than standardised educational provision (Köhler & Rausch, 2022). This underscores the urgency of more intentional and systematic instructional design across the retail sector.

Feedback-rich role plays, scenario-based learning, and peer debriefings encourage the kind of variability and reflection that are central to adaptive expertise (Mylopoulos & Woods, 2017; Pusic et al., 2018). These formats help experienced professionals to "unfreeze" habitual procedures and reorganise their knowledge structures in response to novel challenges.

For experts, less structured but collaborative environments are particularly effective. Practices such as mentoring, critical incident reflection, or trend-based analyses create opportunities for collaborative sensemaking and refinement of tacit knowledge, thereby supporting ongoing adaptability (Gegenfurtner et al., 2024; Gruber & Harteis, 2018). Instructional design for this group should resist oversimplification and instead emphasise multiple cases, perspectives, and contexts which are conditions known to foster transfer and innovation (Hatano & Oura, 2003; Spiro et al., 2019).

Limitations

There are limitations to this study. Even though we managed to include a three expertise group employee-only participant pool, without involving students, the study was restricted to staff from a single company in the furniture sales industry. While draw-

ing exclusively on professionals strengthens the practical relevance of the findings, it also limits their generalisability. The salespeople in this study worked across a wide range of products, which enabled cross-selling opportunities. In contrast, in other industries sales staff specialise in a single product designed for a specific clientele, which narrows the scope for cross-selling. These contextual differences indicate that sales-related cognitive processes may differ substantially across sectors. Beyond product and company specificity, learning cultures and training resources vary considerably across retail organisations of different sizes and structures, which may shape expertise development trajectories in ways the present single-company design cannot fully capture.

Additionally, the relatively short interview duration (M = 11.76 min) is inherent to the script-elicitation design, which prioritises concise structured verbalisations over extended narratives. While follow-up questions were included to deepen the elicitation, richer data may have been obtained through longer or repeated interview formats.

Furthermore, as is well known in expertise research, self-reports need to be treated with caution because they are prone to recall bias, impression management, and situational framing effects (Ericsson & Simon, 1993). However, in the context of our study, they were beneficial because they provided direct access to participants' subjective perspectives and reasoning processes, offering valuable insights into how salespeople themselves conceptualise and reflect on their expertise.

Future Research

Future research should extend the current study in several ways to build a richer understanding of expertise development in sales contexts.

First, generalisability requires moving beyond the present setting. Examining a broader range of sales environments such as B2B, digital platform-based selling, and industries undergoing rapid technological transformation would allow researchers to explore how different contexts shape the transferability of adaptive skills. As Gegenfurtner et al. (2024) emphasise, expertise development is not only a vertical process of progressing from novice to expert under stable conditions but also a horizontal transition, where experts must repeatedly adapt to evolving task constraints. Investigating how salespeople navigate such transitions in varied industries can shed light on whether the sociogenetic adaptation types identified in other domains (successful, problematic, contingent, or failed) also apply to business-to-customer sales.

Second, adaptive selling research can profit from stronger alignment with theories of adaptive expertise (Hatano & Inagaki, 1986; Ward et al., 2019) and adaptive selling (Chaker et al., 2025; Weitz et al., 1986) with the potential of cross-fertilisation (Gobet, 2018). Adaptive selling involves flexibility, creativity, and customer orientation and responsiveness, while adaptive expertise emphasises conceptual understanding, transfer, and the ability to restructure knowledge in response to novel problems. Bridging these frameworks could generate a comprehensive account of how salespeople develop and sustain expertise in dynamic environments. Such alignment would also allow researchers to distinguish between routine flexibility (e.g., tailoring

pitches) and deeper adaptive restructuring (e.g., rethinking sales strategies in the face of AI-driven transformations).

Third, future research could consider moving beyond self-report methods toward observational or simulation-based designs. Analysing real or simulated salesperson-customer interactions would complement script-elicitation approaches, enabling a more direct examination of how expertise differences manifest in actual sales behaviour.

Finally, the role of education and continuous training demands closer attention. With environments becoming increasingly dynamic due to automation, digital CRM tools, and AI adoption, expertise cannot be treated as a static achievement (Gegenfurtner et al., 2024). Instead, training programmes should emphasise constant refinement of skills, opportunities for horizontal learning across industries or functions, and mechanisms for integrating new technologies into daily practice. This perspective resonates with the idea that expertise is always "a continuing process of becoming; never entirely complete" (Dall'Alba, 2018, p. 35).

Conclusion

In summary, this study contributes to a deeper understanding of how sales professionals organise, articulate, and reflect upon their sales interactions. The results demonstrate how knowledge structures evolve with experience and highlight the role of adaptive processes in expertise development and selling. By linking knowledge restructuring, learning behaviours, and instructional design strategies, the study extends the expertise literature into commercial domains. Importantly, it provides actionable insights for fostering professional growth in sales-driven environments, where continuous adaptability remains essential for long-term success.

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Data Availability The data is available upon request.

Declarations

Ethics approval and consent to participate Participation was voluntary and participants gave their consent. We followed the APA Ethical Principles of Psychologists and Code of Conduct.

Competing interests The authors declare no competing interests.

References

Alavi, S., Habel, J., & Linsenmayer, K. (2019). What does adaptive selling mean to salespeople? An exploratory analysis of practitioners' responses to generic adaptive selling scales. *Journal of Personal Selling & Sales Management*, *39*(3), 254–263. https://doi.org/10.1080/08853134.2019.1642765

Alnakhli, H., Singh, R., Agnihotri, R., & Itani, O. S. (2020). From cognition to action: The effect of thought self-leadership strategies and self-monitoring on adaptive selling behavior. *Journal of Business & Industrial Marketing*, *35*(12), 1915–1927. https://doi.org/10.1108/JBIM-06-2019-0302

Arndt, A. D., Rippé, C. B., & Castleberry, S. B. (2018). Any questions? Questioning skill as a selling tactic for sales students. *Journal for Advancement of Marketing Education*, *26*(2), 1–9.

Billett, S., Harteis, C., & Gruber, H. (2018). Developing occupational expertise through everyday work activities and interactions. In K. A. Ericsson, R. R. Hoffman, A. Kozbelt, & A. M. Williams (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 105–126). Cambridge University Press.

Boshuizen, H. P. A., & Schmidt, H. G. (1992). On the role of biomedical knowledge in clinical reasoning by experts, intermediates and novices. *Cognitive Science*, *16*(2), 153–184. https://doi.org/10.1207/s15516709cog1602_1

Boshuizen, H. P. A., Bromme, R., & Gruber, H. (2004). On the long way from novice to expert and how travelling changes the traveller. In H. P. A. Boshuizen, R. Bromme, & H. Gruber (Eds.), *Professional learning: Gaps and transitions on the way from novice to expert* (pp. 3–8). Springer. https://doi.org/10.1007/1-4020-2094-5_1

Boshuizen, H. P. A., Gruber, H., & Strasser, J. (2020). Knowledge restructuring through case processing: The key to generalise expertise development theory across domains? *Educational Research Review*, *29*. https://doi.org/10.1016/j.edurev.2020.100310

Chaker, N. N., Epler, R. T., Moreno, G., Amiri, D., McDougal, E. G., & O'Toole, J. (2025). The past, present, and future of adaptive selling: Toward an integrative framework. *Journal of the Academy of Marketing Science*, *53*(5), 1572–1599. https://doi.org/10.1007/s11747-025-01096-3

Claro, D. P., Ramos, C., & Palmatier, R. W. (2024). Dynamic and global drivers of salesperson effectiveness. *Journal of the Academy of Marketing Science*, *52*, 399–425. https://doi.org/10.1007/s11747-023-00954-2

Custers, E. J. F. M. (2015). Thirty years of illness scripts: Theoretical origins and practical applications. *Medical Teacher*, *37*(5), 457–462. https://doi.org/10.3109/0142159X.2014.956052

Dall'Alba, G. (2018). Reframing expertise and its development: A lifeworld perspective. In K. A. Ericsson, R. R. Hoffman, A. Kozbelt, & A. M. Williams (Eds.), *The Cambridge handbook of expertise and expert performance* (2nd ed., pp. 33–39). Cambridge University Press.

DiBello, L. A. (2020). Expertise in business: Evolving with a changing world. In P. Ward, J. M. Schraagen, J. Gore, & E. Roth (Eds.), *The Oxford handbook of expertise* (pp. 807–829). Oxford University Press.

Ericsson, K. A. (1998). The scientific study of expert levels of performance: General implications for optimal learning and creativity. *High Ability Studies*, *9*(1), 75–100. https://doi.org/10.1080/1359813980090106

Ericsson, K. A. (2018). Capturing expert thought with protocol analysis: Concurrent verbalizations of thinking during experts' performance on representative tasks. In K. A. Ericsson, R. R. Hoffman, A. Kozbelt, & A. M. Williams (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 192–212). Cambridge University Press.

Ericsson, K. A., & Lehmann, A. C. (1996). Expert and exceptional performance: Evidence of maximal adaptation to task constraints. *Annual Review of Psychology*, *47*, 273–305. https://doi.org/10.1146/annurev.psych.47.1.273

Ericsson, K. A., & Simon, H. A. (1993). *Protocol analysis: Verbal reports as data* (rev. ed.). MIT Press.

Gegenfurtner, A., Gruber, H., Lehtinen, E., & Säljö, R. (2024). Horizontal transition of expertise. *Frontline Learning Research*, *12*(3), 20–44. https://doi.org/10.14786/flr.v12i3.543

Gobet, F. (2018). The future of expertise: The need for a multidisciplinary approach. *Journal of Expertise*, *1*(2), 107–113.

Goller, M., & Billett, S. (2014). Agentic behaviour at work: Crafting learning experiences. In C. Harteis, A. Rausch, & J. Seifried (Eds.), *Discourses on professional learning: On the boundary between learning and working* (pp. 25–44). Springer. https://doi.org/10.1007/978-94-007-7012-6_3

Gonzalez, G. R., & Claro, D. P. (2019). How intrafirm intermediary salespeople connect sales to marketing and product development. *Journal of the Academy of Marketing Science*, *47*(5), 795–814. https://doi.org/10.1007/s11747-019-00656-8

Groenier, M., Khaled, A., Kamphorst, J., Tankink, T., Endedijk, M., Fluit, C., & Kuijer-Siebelink, W. (2025). Adaptive expertise development during work-based learning in higher education: A realist review. *Vocations and Learning*, *18*, 11. https://doi.org/10.1007/s12186-025-09366-5

Gruber, H., & Harteis, C. (2018). *Individual and social influences on professional learning: Supporting the acquisition and maintenance of expertise*. Springer.

Gruber, H., Jansen, P., Marienhagen, J., & Altenmüller, E. (2010). Adaptations during the acquisition of expertise. *Talent Development & Excellence*, *2*(1), 3–15.

Hatano, G., & Inagaki, K. (1986). Two courses of expertise. In H. Stevenson, H. Azuma, & K. Hakuta (Eds.), *Child development and education in Japan* (pp. 262–272). Freeman.

Hatano, G., & Oura, Y. (2003). Commentary: Reconceptualizing school learning using insight from expertise research. *Educational Researcher*, *32*(8), 26–29. https://doi.org/10.3102/0013189X032008026

Hunter, G. K., & Goebel, D. J. (2008). Salespersons' information overload: Scale development, validation, and its relationship to salesperson job satisfaction and performance. *Journal of Personal Selling & Sales Management*, *28*(1), 21–35. https://doi.org/10.2753/PSS0885-3134280102

Itani, O. S., Goad, E. A., & Jaramillo, F. (2019). Building customer relationships while achieving sales performance results: Is listening the holy grail of sales? *Journal of Business Research*, *102*, 120–130. https://doi.org/10.1016/j.jbusres.2019.04.048

Jossberger, H., Breckwoldt, J., & Gruber, H. (2022). Promoting expertise through simulation (PETS): A conceptual framework. *Learning and Instruction*, *82*, 1–10. https://doi.org/10.1016/j.learninstruc.2022.101686

Jossberger, H., Boshuizen, H. P. A., Gruber, H., & Krauss, S. (2025). Trends in expertise studies in the domain of teaching. *ZDM – Mathematics Education*, *57*, 1223–1234. https://doi.org/10.1007/s11858-025-01745-5

Kassemeier, R., Alavi, S., Habel, J., & Schmitz, C. (2022). Customer-oriented salespeople's value creation and claiming in price negotiations. *Journal of the Academy of Marketing Science*, *50*, 689–712. https://doi.org/10.1007/s11747-022-00846-x

Kim, Y., & McFarland, R. G. (2024). Are you looking for something specific or just looking around? Adaptive selling on the basis of customer shopping goals in retail sales. *Journal of the Academy of Marketing Science*, *52*(6), 1780–1804. https://doi.org/10.1007/s11747-024-01015-y

Köhler, D. P., & Goller, M. (2024). Expertise development at work: A workplace curriculum perspective in the domains of sales representatives and leadership coaches in a German context. *International Journal for Research in Vocational Education and Training*, *11*(3), 334–367. https://doi.org/10.13152/IJRVET.11.3.2

Köhler, D. P., & Rausch, A. (2022). Expertise development in the workplace through deliberate practice and progressive problem solving: Insights from business-to-business sales departments. *Vocations and Learning*, *15*, 569–597. https://doi.org/10.1007/s12186-022-09301-y

Koponen, J., Julkunen, S., & Asai, A. (2019). Sales communication competence in international B2B solution selling. *Industrial Marketing Management*, *82*, 238–252. https://doi.org/10.1016/j.indmarman.2019.01.009

Koponen, J., Julkunen, S., Laajalahti, A., Turunen, M., & Spitzberg, B. H. (2025). Sales managers' perceptions of interpersonal communication competence in leading AI-integrated sales teams. *Industrial Marketing Management*, *124*, 57–72. https://doi.org/10.1016/j.indmarman.2024.11.012

Krauss, S., Hohenleitner, S., Steib, N., Lindl, A., & Hilbert, S. (2025). Does more teaching experience mean more expertise? A nonlinear perspective from the COACTIV study. *Zdm*, *57*, 1235–1250. https://doi.org/10.1007/s11858-025-01748-2

Krippendorff, K. (2012). *Content analysis: An introduction to its methodology* (3rd ed.). Sage.

Leigh, T. W., DeCarlo, T. E., Allbright, D., & Lollar, J. (2014). Salesperson knowledge distinctions and sales performance. *The Journal of Personal Selling & Sales Management*, *34*(2), 123–140. https://doi.org/10.1080/08853134.2014.890902

Leong, S. M., Busch, P. S., & John, D. R. (1989). Knowledge bases and salesperson effectiveness: A script-theoretic analysis. *Journal of Marketing Research*, *26*(2), 164–178. https://doi.org/10.1177/002224378902600203

Locander, D. A., Locander, J. A., & Weinberg, F. J. (2020). How salesperson traits and intuitive judgments influence adaptive selling: A sensemaking perspective. *Journal of Business Research*, *118*, 452–462. https://doi.org/10.1016/j.jbusres.2020.07.013

Mayring, P. (2021). *Qualitative content analysis: A step-by-step guide.* Sage.
McFarland, R. G. (2019). A conceptual framework of macrolevel and microlevel adaptive selling theory, setting a research agenda, and suggested measurement strategies. *Journal of Personal Selling & Sales Management*, *39*(3), 207–221. https://doi.org/10.1080/08853134.2019.1645019
McGowan, P. (2021). Sales failure: A review and future research directions. *International Journal of Logistics Research and Applications*, *24*(1), 23–50. https://doi.org/10.1080/13675567.2020.1726306
Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis*. Sage.
Mitchell, R. A., Wai, P., Colgan, R., Kirby, A. M., & Donovan, E. M. (2017a). Improving the efficiency of breast radiotherapy treatment planning using a semi-automated approach. *Journal of Applied Clinical Medical Physics*, *18*(1), 18–24. https://doi.org/10.1002/acm2.12006
Mitchell, R. K., Mitchell, B. T., & Mitchell, J. R. (2017b). Entrepreneurial scripts and entrepreneurial expertise: The information processing perspective. In M. Brännback & A. L. Carsrud (Eds.), *Revisiting the entrepreneurial mind* (pp. 131–173). Springer. https://doi.org/10.1007/978-3-319-45544-0_11
Mylopoulos, M., & Woods, N. N. (2017). When I say… adaptive expertise. *Medical Education*, *51*(7), 685–687. https://doi.org/10.1111/medu.13247
Nievelstein, F., Van Gog, T., Boshuizen, H. P. A., & Prins, F. (2008). Expertise-related differences in conceptual and ontological knowledge in the legal domain. *European Journal of Cognitive Psychology*, *20*(6), 1043–1064. https://doi.org/10.1080/09541440701674777
Pelgrim, E., Hissink, E., Bus, L., Van der Schaaf, M., Nieuwenhuis, L., Van Tartwijk, J., & Kuijer-Siebelink, W. (2022). Professionals' adaptive expertise and adaptive performance in educational and workplace settings: An overview of reviews. *Advances in Health Sciences Education*, *27*(5), 1245–1263. https://doi.org/10.1007/s10459-022-10190-y
Peñalba-Aguirrezabalaga, C., Sáenz, J., Ritala, P., & Vanhala, M. (2021). Putting knowledge to work: The combined role of marketing and sales employees' knowledge and motivation to produce superior customer experiences. *Journal of Knowledge Management*, *25*(10), 2484–2505. https://doi.org/10.1108/JKM-09-2020-0727
Pusic, M. V., Santen, S. A., Dekhtyar, M., Poncelet, A. N., Roberts, N. K., Wilson-Delfosse, A. L., & Cutrer, W. B. (2018). Learning to balance efficiency and innovation for optimal adaptive expertise. *Medical Teacher*, *40*(8), 820–827. https://doi.org/10.1080/0142159X.2018.1485887
Rikers, R. M., Schmidt, H. G., & Boshuizen, H. P. A. (2000). Knowledge encapsulation and the intermediate effect. *Contemporary Educational Psychology*, *25*(2), 150–166. https://doi.org/10.1006/ceps.1998.1000
Schank, R. C., & Abelson, R. P. (1977). *Scripts, plans, goals, and understanding: An inquiry into human knowledge structures.* Erlbaum.
Schmidt, H. G., & Boshuizen, H. P. A. (1993). On the origin of intermediate effects in clinical case recall. *Memory & Cognition*, *21*(3), 338–351. https://doi.org/10.3758/BF03208266
Schmidt, H. G., & Rikers, R. M. J. P. (2007). How expertise develops in medicine: Knowledge encapsulation and illness script formation. *Medical Education*, *41*(12), 1133–1139. https://doi.org/10.1111/j.1365-2923.2007.02915.x
Schneider, W., Gruber, H., Gold, A., & Opwis, K. (1993). Chess expertise and memory for chess positions in children and adults. *Journal of Experimental Child Psychology*, *56*, 328–349. https://doi.org/10.1006/jecp.1993.1038
Sharma, A., Levy, M., & Kumar, A. (2000). Knowledge structures and retail sales performance: An empirical examination. *Journal of Retailing*, *76*(1), 53–69. https://doi.org/10.1016/S0022-4359(99)00023-8
Spiro, R. J., Feltovich, P. J., Gaunt, A., Hu, Y., Klautke, H., Cheng, C., Clemente, I., Leahy, S., & Ward, P. (2019). Cognitive flexibility theory and the accelerated development of adaptive readiness and adaptive response to novelty. In P. Ward, J. M. Schraagen, J. Gore, & E. M. Roth (Eds.), *The Oxford handbook of expertise* (pp. 951–976). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780198795872.013.41
Strasser, J., & Gruber, H. (2015). Learning processes in the professional development of mental health counselors: Knowledge restructuring and illness script formation. *Advances in Health Sciences Education*, *20*, 515–530. https://doi.org/10.1007/s10459-014-9545-1
Taylor, A., Jossberger, H., & Gruber, H. (2024). Purposeful practice as the key to superior sales performance: An exploratory analysis. *Journal of Marketing Theory and Practice*, *32*(2), 247–273. https://doi.org/10.1080/10696679.2022.2159838
Valenzuela-Fernández, L., & Villegas Pinuer, F. (2025). Are sales successful due to salespeople expertise and adaptability? Gender and age dynamics in investment banking. *Sage Open*, *15*(1). https://doi.org/10.1177/21582440251318464

Van de Wiel, M. W. J. (2017). Examining expertise by interviews and verbal protocols. *Frontline Learning Research*, *5*(3), 94–122. https://doi.org/10.14786/flr.v5i3.257

Van de Wiel, M. W. J., Van den Bossche, P., Janssen, S., & Jossberger, H. (2011). Exploring deliberate practice in medicine: How do physicians learn in the workplace? *Advances in Health Sciences Education*, *16*(1), 81–95. https://doi.org/10.1007/s10459-010-9246-3

Verbeke, W., Dietz, B., & Verwaal, E. (2011). Drivers of sales performance: A contemporary meta-analysis. Have salespeople become knowledge brokers? *Journal of the Academy of Marketing Science*, *39*(3), 407–428. https://doi.org/10.1007/s11747-010-0211-8

Ward, P., Schraagen, J. M., Gore, J., Roth, E. M., Hoffman, R. R., & Klein, G. (2019). Reflections on the study of expertise and its implications for tomorrow's world. In P. Ward, J. M. Schraagen, J. Gore, & E. M. Roth (Eds.), *The Oxford handbook of expertise* (pp. 1193–1213). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780198795872.013.52

Weitz, B. A., Sujan, H., & Sujan, M. (1986). Knowledge, motivation, and adaptive behavior: A framework for improving selling effectiveness. *Journal of Marketing*, *50*(4), 174–191. https://doi.org/10.1177/002224298605000404

Wolff, C. E., Jarodzka, H., & Boshuizen, H. P. A. (2021). Classroom management scripts: A theoretical model contrasting expert and novice teachers' knowledge and awareness of classroom events. *Educational Psychology Review*, *33*(1), 131–148. https://doi.org/10.1007/s10648-020-09542-0

Zhou, J., & Charoensukmongkol, P. (2022). Cultural intelligence and adaptive selling behaviors in cross-cultural selling: The cognitive resource theory and social role theory perspective. *Journal of Business Research, 146*, 477–488. https://doi.org/10.1016/j.jbusres.2022.03.079