

# Entrepreneurial orientation among sales professionals: performance implications and mediating mechanisms

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## Abstract

**Purpose** – This study aims to examine the effect of individual entrepreneurial orientation on the performance of sales professionals. It also identifies ambidexterity and role ambiguity as mediating mechanisms linking entrepreneurial orientation to sales performance.

**Design/methodology/approach** – The author polled 252 UK-based sales professionals in 2020. The analytical strategy is partial least squares structural equation modelling.

**Findings** – The author finds that entrepreneurial orientation significantly improves behavioural and selling performance and that ambidexterity – joint farming and hunting – and role ambiguity mediate this relationship. Post hoc analysis reveals that, in contrast, entrepreneurial intent has no direct effect on sales performance. These findings bridge the entrepreneurship and sales literatures, demonstrating that, for salespeople, thinking like an entrepreneur has a direct and positive effect on sales performance, whereas having a strong entrepreneurial intent does not.

**Research limitations/implications** – This study establishes individual entrepreneurial orientation as a key driver of sales performance. It advances theory by identifying ambidexterity – joint hunting for new customers and farming of existing customer relationships – and role ambiguity as central mechanisms converting entrepreneurial orientation into performance outcomes.

**Practical implications** – Sales organisations should foster entrepreneurial orientation – innovativeness, proactivity and risk-taking – since it improves performance both directly and indirectly, by enabling salespeople to jointly hunt for new customers and farm existing ones (ambidexterity) while reducing role ambiguity. By contrast, entrepreneurial intent has no direct performance effect, so fostering entrepreneurial intent, for example, hiring aspiring entrepreneurs – will not lead to a direct improvement in sales performance.

**Social implications** – Because sales uses a large share of the workforce and shows extreme output dispersion, interventions that build entrepreneurial orientation, ambidexterity and role clarity can deliver meaningful economic and social benefits.

**Originality/value** – There is, to this date, not a single empirical study examining the effect and pathway of entrepreneurial orientation of sales professionals on their performance. This study bridges the entrepreneurship and selling literatures to test the entrepreneurial orientation-performance relationship in the sales function and to explore mediating mechanisms. The author also conducted a post hoc test on the effect of entrepreneurial intent on sales performance.

**Keywords** Entrepreneurial orientation, Sales, Entrepreneurial intent, Ambidexterity, Sales management

**Paper type** Research paper



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## 1. Introduction

*Being a salesperson is like being an entrepreneur in your own territory.*

—Sales manager, Fortune 500 company.

Entrepreneurial orientation (EO), a “top management style” (W. J. Wales *et al.*, 2020, p. 3), reflects how a firm operates and is generally measured via CEO perceptions (Putnins and Sauka, 2020). Although the literature documents the positive effect of EO on performance, the underlying mechanisms through which EO is translated into superior performance have not been sufficiently studied (Kollmann and Stöckmann, 2014; Wales *et al.*, 2013). EO is not a direct measure of entrepreneurial activities; it is a disposition – a willingness to innovate, to take risks and to engage in proactive behaviours (Wiklund and Shepherd, 2005). Scholars have called for studies that illuminate the chain from this attitudinal disposition to tangible performance outcomes (Jiang *et al.*, 2021; Wales *et al.*, 2013). This is the first objective of the present study.

Secondly, managers in the firm clearly have the potential to act entrepreneurially (Jones, 2005). Among the many units that make up a firm, one unit clearly has the greatest opportunity to engage in entrepreneurial activities but has, counterintuitively, not received scholarly attention in entrepreneurship research. Which unit? Sales – of course. Decades ago, the literature argued that “sales management should represent one of the more entrepreneurial areas within firms” (Morris *et al.*, 1990, p. 3), that “salespeople are entrepreneurs on the front line” (Jones *et al.*, 2000, p. 45). Salespeople are “unsupervised” (Zoltners *et al.*, 2008, p. 115) and have the opportunity to act like entrepreneurs, but “selling has been largely absent from entrepreneurship theorizing” (Matthews *et al.*, 2018, p. 703). Attention to entrepreneurial selling is “sporadic” (Dalecki, 2019, p. 103). “Research on entrepreneurship and B2B sales has remained relatively limited” (Edwards *et al.*, 2023, p. 1), essentially because these two literatures are “disconnected scholarly camps” (Pidduck and Epler, 2026, p. 265).

There is, to this date, not a single empirical study examining the effect and pathway of EO of sales professionals on their performance. The second objective of the present study is thus to bridge the literature of entrepreneurship and selling to examine the EO–performance relationship in this specific context. I also conduct a post hoc test to explore the effect of entrepreneurial intent (EI) on performance.

After polling 252 sales professionals in the UK in early 2020, I find significant effects leading from EO to sales performance, but no direct effect of EI on performance. I further explore the pathways leading from EO to sales performance, a pathway that hitherto is a “black box” (Jiang *et al.*, 2016, p. 103), identifying ambidexterity and role ambiguity as mediating variables. In a nutshell, the conclusions are that thinking like an entrepreneur – having a high EO – directly improves individual performance, while intending to become an entrepreneur – having a high EI – does not. These findings have significant practical implications for organisations that so far have uncritically encouraged entrepreneurial behaviour among sales professionals or that have hired aspiring entrepreneurs in sales functions. This study has important theoretical implications because it illuminates the pathway leading from EO to performance, identifying ambidexterity, i.e. joint farming and hunting, and role ambiguity as important mediators; it also sheds light on the very distinct effect of EI and EO on individual sales performance.

## 2. Theoretical foundations

### 2.1 Entrepreneurial orientation and performance

In a pioneering paper, Miller (1983) defines the characterising attributes of an entrepreneurial firm as “one that engages in product-market innovation, undertakes somewhat risky

ventures, and is first to come up with ‘proactive’ innovations, beating competitors to the punch”. This view of entrepreneurship is the basis for the subsequent and now prevailing definition of EO by J. G. Covin and Slevin (1989) as a firm-wide strategic posture in which CEOs have management styles that emphasise innovation, proactivity and risk-taking. In this view, EO is a composite construct represented by what innovation, proactivity and risk-taking have in common. Lumpkin and Dess (1996) take a different perspective: EO is a multidimensional construct in which the dimensions function as independent predictors. To the original three dimensions, Lumpkin and Dess (1996) add autonomy and competitive aggressiveness. This redefinition of EO is “radical” (Wales *et al.*, 2013, p. 359), leading to two different perspectives of EO: a composite and a multidimensional view.

Several meta-analytic reviews of EO research indicate that the overwhelming majority of scholars use the three traits of innovation, proactivity and risk-taking to define EO as a unidimensional construct (Covin and Miller, 2014; Wales *et al.*, 2013). These three aspects are the “core, fundamental dimensions” of EO (Wales, 2016, p. 6). This conceptualisation of EO underlies the present study.

The literature predominantly defines EO as a firm-level construct (Bouguerra *et al.*, 2023; Covin and Slevin, 1991) such that the firm, by virtue of behaviours on the part of the CEO and top management, engages in entrepreneurial actions. Only fairly recently have scholars begun to question and criticise this firm-level view of EO. Frese and Gielnik (2014, p. 422) write that “entrepreneurial orientation is a curious concept”, insofar as it assumes that self-perceptions of CEOs regarding their firms’ strategic orientation have any relevance for the firm as a whole. Several researchers therefore urge scholars to “reintroduce the individual in EO research” and to define EO as “interindividual difference” in behaviourally relevant characteristics (Krauss *et al.*, 2005, p. 216). Indeed, a meta-analytic review of more than 100 entrepreneurship studies finds significant relationships between individual personality traits and performance, such as new venture creation and business success (Rauch and Frese, 2007). A subsequent meta-analysis of 60 studies confirms that individual personality traits – in order: conscientiousness, openness to experience, emotional stability and extraversion – are positively related to entrepreneurial intentions and subsequent performance (Zhao *et al.*, 2010). Individual-level analysis is very fruitful.

This individual-level view of EO has characterised entrepreneurship research from its very foundation: Schumpeter (1911) certainly uses an individual-level approach to entrepreneurship: entrepreneurs are those who periodically “revolutionize the economy”, “create new products” and “reorganize” (1911: 492). Studying EO at the individual level is essential because it captures how individual entrepreneurial dispositions translate into entrepreneurial behaviour (Clark *et al.*, 2024). In line with Schumpeter, the founding father, and with other recent studies (Covin *et al.*, 2020; Kollmann *et al.*, 2017; Krauss *et al.*, 2005; Perry *et al.*, 2016), this study takes an individual-level view of EO.

I examine whether EO and, in a post hoc analysis, EI are associated with higher individual sales performance. The positive effect of individual EO on performance is well documented for entrepreneurs (Krauss *et al.*, 2005; Rauch and Frese, 2007) – but not for employees, i.e. salaried individuals working in a subordinate position. Furthermore, we do not yet understand whether EI has any direct effect on individual performance. Table 1 lists representative studies and positions the current study in the context of ongoing research.

Among practitioners, a few question (Kahle, 2014), but most authors advocate the benefits of encouraging entrepreneurship among sales professionals (Hanan, 1973; Zoltners *et al.*, 2009). Among academics, no studies, to the best of my knowledge, examine the relationship between individual EO and salesperson performance, though some examine the role of related traits, e.g. self-efficacy (Edwards *et al.*, 2022) and motivation (Rajabi *et al.*, 2018). The EO–performance

Table 1. Overview of extant research and contribution of the current study

| Level of analysis             | Entrepreneurial orientation (EO) → Performance                                                                                                                                                                                                                                                                 | Entrepreneurial orientation (EO) → Performance |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
|                               |                                                                                                                                                                                                                                                                                                                | Entrepreneurial intent (EI) → Performance      |
| Individual sales professional | No studies; some studies examine traits associated with entrepreneurship and performance (Rajabi <i>et al.</i> , 2018) (Spillecke and Brettel, 2013, 2014) (Chaston and Sadler-Smith, 2012; Covin <i>et al.</i> , 2006; Flatten <i>et al.</i> , 2014; Kohtamäki <i>et al.</i> , 2019; Putniņš and Sauka, 2020) | This paper                                     |
| Sales department              |                                                                                                                                                                                                                                                                                                                | Not meaningful                                 |
| Company, business unit        |                                                                                                                                                                                                                                                                                                                |                                                |

relationship has certainly been investigated at the firm level, where a meta-analysis of 51 studies finds a moderately large correlation of 0.242 (Rauch *et al.*, 2009). At the individual level, the strength and nature of the EO–performance relationship have yet to be examined.

EO is a disposition, i.e. an “individual’s durable orientation that influence their context-specific behavioural choices” (Clark *et al.*, 2025, p. 670) for innovation, proactivity and risk-taking. For these three traits, extant research is not uniformly developed, much less so individual-level research: innovativeness, at the department level, increases sales department performance by promoting novel problem-solving approaches and by fostering a climate of autonomy and trust that increases salesperson engagement and effort (Matsuo, 2009). At the individual level, proactivity is, according to several meta-analytic reviews, a valid predictor of job performance (Fuller and Marler, 2009; Spitzmuller *et al.*, 2015; Thomas *et al.*, 2010; Tornau and Frese, 2013): proactive individuals tend to shape their work environments by actively seeking opportunities and taking initiative, which results in them creating more demanding jobs with higher autonomy and responsibility (Li *et al.*, 2014). At the individual level, extant research conceptualises risk propensity as a domain-specific behaviour shaped primarily by perceived benefits and, to a lesser extent, by perceived risks (Hanoch *et al.*, 2006). Risk taking is associated with goal achievement insofar as individuals may accept substantial risks to get what they want (Nicholson *et al.*, 2005), but we do not yet know how “risk-taking propensity affects work, life, and educational outcomes” (Joseph and Zhang, 2021, p. 8). Risk taking is linked to innovativeness (Hernández-Méndez *et al.*, 2025), and, for salespeople, creativity – related to innovativeness – is linked to improved sales performance (Miao and Wang, 2016). At the firm level, risk taking has a positive effect on performance (Saini and Martin, 2009). Thus, while the individual-level research on innovativeness, risk-taking and proactivity is very patchy, proactivity shows the strongest link to job performance. Even so, the evidence still suggests a likely positive association between both innovativeness and risk-taking and performance. Finally, in line with the literature (Miao and Evans, 2007), this study captures performance as comprising both qualitative (behavioural) and quantitative (financial) indicators. The core hypothesis of this study is, therefore:

H1. The higher the EO of sales professionals, the higher the behavioural (H1a) and selling (H1b) performance.

2.1 The chain from entrepreneurial orientation to performance

An important question concerns the mechanisms between EO and performance that “have remained assumed rather than tested” (Wiklund and Shepherd, 2011). Scholars point to the

limited research on mediating variables – constructs explaining why events take place – in the EO–performance relationship (Wales, 2016; Wales *et al.*, 2013): “Little consideration [is] being given to such matters as the identification and assessment of mechanisms and mediators through which subsequent performance occurs” (J. Covin and Wales, 2019, p. 12). This view is shared (Wales *et al.*, 2021).

The pathways of this relationship can be examined by using the orientation-behaviour-performance view (Chernetsky *et al.*, 2022; Donbesuur *et al.*, 2020; Jiang *et al.*, 2021; Kollmann and Stöckmann, 2014). According to this view, EO is a predisposition towards entrepreneurial activities (Lumpkin and Dess, 1996), which does not necessarily lead to improved performance, but which will do so if actions are taken. Kollmann and Stöckmann (2014, p. 1004) write that “the EO–performance relationship might be jeopardised by the fact that the EO is not converted into appropriate action”. I use available meta-analytic evidence to identify the intermediary mechanisms bridging the EO–performance relationship: ambidexterity and role ambiguity.

**2.1.1 Ambidexterity.** Sales professionals sell – a trite statement. With respect to any activity that impacts performance – strategising, innovating and also selling – scholars have argued that individuals must manage the impossible tension between exploitation and exploration (March, 1991). March (1991) posits that exploration involves searching for and experimenting with new possibilities (e.g. risk taking, discovery and innovation), whereas exploitation involves refining and efficiently executing what is already known (e.g. implementation and execution). Ambidexterity refers to the development of an organisational context that encourages individuals to perform the conflicting strategic actions of efficiently managing what is known and creatively experimenting with the unknown (Gibson and Birkinshaw, 2004). At the level of individual sales professionals, the literature offers three distinct perspectives on ambidexterity. Ambidexterity means selling products and services (Mullins *et al.*, 2020a; Schaarschmidt *et al.*, 2022), selling existing and new products (Nijssen *et al.*, 2017) and, finally, selling to existing and acquiring new customers (Van der Borgh *et al.*, 2017). In line with the prevailing view in the literature, this paper conceptualises ambidexterity as selling to existing and acquiring new customers, as joint farming and hunting (DeCarlo and Lam, 2016; Lam *et al.*, 2019). This distinction between farming and hunting thus captures two key, but distinct, selling activities (DeCarlo and Lam, 2016): farming involves developing and retaining existing customer relationships (e.g. relationship maintenance, cross-selling and up-selling), whereas hunting involves acquiring new customers (e.g. prospecting, lead generation and securing initial orders).

The dominant organisational design in sales is a hybrid hunter-farmer sales role (Ingram *et al.*, 2020; Weinberg, 2013), where salespeople are paid to farm and hunt at the very same time. Ambidextrous behaviour is about managing this impossible – at least, very difficult – tension, since salespeople overwhelmingly farm, leading some researchers to suggest that hunting is more important “than any other issue today” (Weinberg, 2013, p. 35). Several studies provide robust evidence that salespeople who exhibit a high farming and a high hunting orientation realise substantially higher results (DeCarlo and Lam, 2016; Lam *et al.*, 2019).

What leads to ambidexterity? In their study of roughly 200 adolescent companies, Kollmann and Stöckmann (2014, p. 1005) identify EO as an antecedent of both exploitation and exploration, explicitly warning against the “normative bias” of naively assuming that EO would affect only exploration. In their study, EO is linked to both exploitative innovations and explorative innovations, although the explained variance of exploration is substantially higher than that of exploitation. But the conclusion is clear: EO affects firm performance via both exploitation and exploration. In a similar vein, Ireland and Webb (2007, p. 50) argue

that EO is linked to ambidexterity since it “balances between opportunity-seeking (i.e. exploration) and advantage-seeking (i.e. exploitation) behaviours”. Furthermore, a recent study of 260 start-ups finds strong relations between entrepreneurial passion and both exploration and exploitation (Ahsan *et al.*, 2023), thus providing indirect evidence that the thought-worlds of entrepreneurs affect both exploration and exploitation. Finally, EO is linked to innovation ambidexterity, i.e. exploratory and exploitative innovation (S. Singh and Singh, 2024). Taken together, these studies thus justify the following set of hypotheses:

- H2. The higher the entrepreneurial orientation, the higher the ambidexterity of sales professionals.
- H3. The higher the ambidexterity, the higher the behavioural (H3a) and selling (H3b) performance of sales professionals.
- H4. Ambidexterity mediates the entrepreneurial orientation–performance relationship, both behavioural (H4a) and selling (H4b).

*2.1.2 Role ambiguity.* As of this writing, there exist three major meta-analytic studies examining drivers of sales performance (Churchill *et al.*, 1985; Claro *et al.*, 2024; Verbeke *et al.*, 2011), in addition to two focused meta-analyses, one examining only personality traits (Vinchur *et al.*, 1998), the other only drivers in business-to-business (B2B) (Ohiomah *et al.*, 2020). These meta-analytic studies provide converging evidence regarding the importance of one key factor driving sales performance: role ambiguity (Churchill *et al.*, 1985; Ohiomah *et al.*, 2020; Verbeke *et al.*, 2011).

Role ambiguity refers to the perceived lack of information to perform the job adequately and the perceived uncertainty about job expectations (Singh, 1998). Role ambiguity in sales is a consequence of the ongoing tectonic shift of mechanisms through which the sales force creates value. DeVincentis and Rackham (1998, pp. 35–36), prominent researchers in sales management, wrote already in 1998: “Unfortunately, generations of salespeople have been brought up with the notion that they create value by bringing in revenue. But bringing in revenue means collecting value, not creating it. And that is not enough to survive in today’s competitive markets”. More recently, some authors question the very relevance of a salesforce: “In a world where anybody can find anything with just a few keystrokes, intermediaries like salespeople are superfluous” (Pink, 2012, p. 13). The role of the salesforce has changed dramatically, from passively collecting orders, to providing information, to understanding and developing customer needs (Rackham, 1988), to co-creating solutions (Macdonald *et al.*, 2016; Storbacka, 2011), to quantifying value (Hinterhuber, 2017), to, finally, increasing customer competitiveness via education (Dixon and Adamson, 2011).

Even under the assumption that role expectations *vis-à-vis* salespeople are – over a brief period – fixed, role ambiguity remains an important performance differentiator: sales professionals span boundaries that are inherently ill-defined. They are exposed to conflicting demands by customers, supervisors and other departments; objectives, available resources, decision rights, customer needs, product–market fit and competitor strategies are all subject to rapid change (A. A. Zoltners *et al.*, 2008). Structuring and reducing the inherent ambiguity, focusing on the few outcomes that truly matter, is what makes sales professionals great. Aaron Ross, sales director at Salesforce.com, puts it this way: “uncertainty/ambiguity = waste; simplicity/clarity = productivity” (Ross and Tyler, 2011, p. 215).

Over the past decades, scholars have conducted four major meta-analytic reviews on antecedents and consequences of role ambiguity (Abramis, 1994; Gilboa *et al.*, 2008; Jackson and Schuler, 1985; Tubre and Collins, 2000). These studies provide converging

evidence regarding the significant negative correlation between role ambiguity and job performance, with a true score correlation of  $-0.21$  (Tubre and Collins, 2000), comparable in size to the effect of “some personality correlations” (2000, p. 164) widely used in personnel selection. These meta-analytic reviews identify several determinants or, at least, antecedents of role ambiguity: in addition to leadership factors, they point out the important role of individual characteristics, such as self-esteem, autonomy, participation in decision-making, external *locus* of control, job involvement and task identity (Jackson and Schuler, 1985), all of which are negatively correlated with role ambiguity. Autonomy, self-efficacy and internal *locus* of control are traits that the entrepreneurship literature identifies as antecedents to EO (Frese and Gielnik, 2014; Krauss *et al.*, 2005).

Furthermore, the literature indicates that the facets of EO have a direct role in shaping perceived role ambiguity: being proactive refers to “the extent to which the individual takes self-directed action to anticipate or initiate change in the work system or work roles”. This is “important whenever a work context involves uncertainty and some aspects of work roles that cannot be formalized” (Griffin *et al.*, 2007, p. 329). Innovativeness refers to the ability to challenge the status quo and seek alternative ways to solve problems and to gain advantages from opportunities via experimentation (Baum and Bird, 2010). Risk-taking implies “a tendency to take bold actions” such as venturing into the unknown and making sense of ambiguous conditions (T. Lumpkin and Dess, 2001, p. 431). Taken together, these studies suggest that high levels of EO are associated with low role ambiguity.

Role ambiguity, i.e. the perception of uncertainty and of insufficient information, is, in this view, not an immutable role characteristic but an attribute that innovative, proactive and risk-seeking individuals reduce through actions that shape the external environment. EO is an antecedent of role ambiguity, allowing one to make sense of ill-structured information:

- H5. The higher the entrepreneurial orientation, the lower the role ambiguity of sales professionals.
- H6. The lower the role ambiguity, the higher the behavioural (H6a) and selling (H6b) performance of sales professionals.
- H7. Role ambiguity mediates the entrepreneurial orientation–performance relationship, both behavioural (H7a) and selling (H7b).

The hypothesised research model is in Figure 1.

### 3. Methods

#### 3.1 Data collection and sampling

Researchers specifically recommend online panel providers when the collected data is sensitive (Porter *et al.*, 2019). In this study, I measure individual sales performance, data that, for sales professionals, has a direct effect on target achievement and thus, typically, on individual variable compensation. The data is extremely sensitive. Furthermore, a meta-analysis indicates the convergence between online panel data and conventionally sourced data, concluding that online panel data are “suitable” for exploratory research (Walter *et al.*, 2019, p. 425).

I commissioned Cint, a leading global provider of online panel data, to recruit sales professionals in the UK. Prior to data collection, I set a target sample size of about 260 complete responses based on considerations of statistical power and available budget. I use strict *a priori* criteria for participant exclusion to ensure data quality: At the start of the survey, I use a filter question asking about their current role as an additional step to ensure

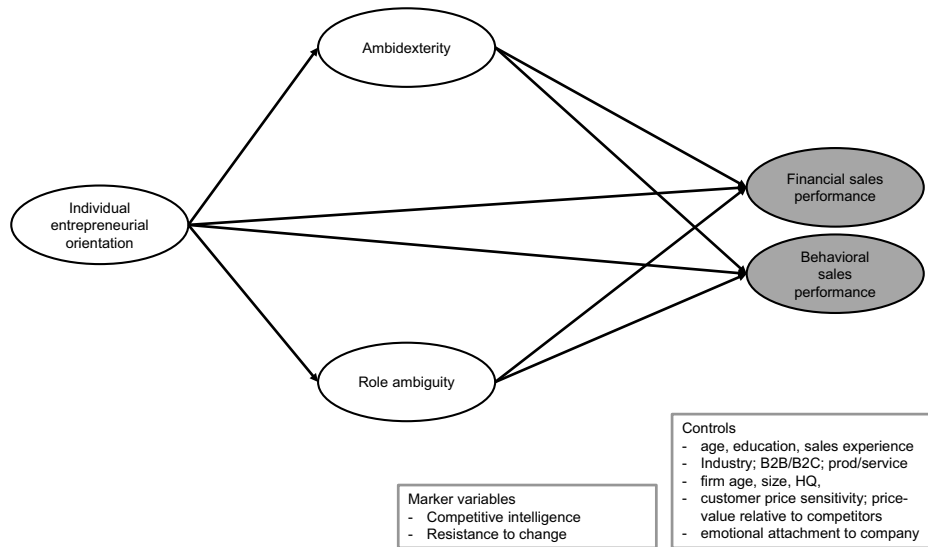


Figure 1. Hypothesised research model

data quality [1]. Only individuals employed in one of four selling roles – customer-facing sales role, managerial role in sales, customer-facing account management role or managerial role in account management – were eligible to participate. Participants who indicated “Other” were prevented from taking the survey. Hence, respondents are qualified. Data collection takes place in a two-week period in the second half of March 2020.

To further ensure data quality, I include an attention check question in the online survey. Specifically, I use an item embedded in a survey block that was formatted the same as the preceding and succeeding items and ask respondents to give a particular response to indicate that they are paying attention. Before data analysis, respondents who did not pass the attention check are automatically excluded and replaced. I also added one redundant question on participant gender, eliminating participants with diverging answers to this simple question. Similarly, I ask the panel provider to replace inattentive respondents (e.g. straight liners and speeders) before data analysis.

I am able to retain responses from 252 sales professionals for the final analysis. The sample size is sufficient to test the hypotheses. The sample is diverse in terms of both individual and organisational characteristics: The sample consists mainly of sales professionals from business-to-consumers (B2C) companies (47%), with additional representation from B2B (21%) and mixed B2B/B2C firms (28%). The majority of respondents hold customer-facing sales roles (60%), followed by managerial roles in sales (24%), customer-facing account management roles (11%) and, finally, managerial roles in account management (5%).

The typical respondent in this survey is a female, customer-facing sales professional in the mid-thirties, working for a privately-owned firm with fewer than 250 employees, active in the B2C service industry in the UK. This typical respondent has around five years of work experience and a background education in marketing or sales. Table 2 has the descriptive statistics.

**Table 2.** Descriptive statistics

| Respondent characteristics              | <i>n</i> | %     |
|-----------------------------------------|----------|-------|
| <i>Job position</i>                     |          |       |
| Customer facing sales role              | 151      | 59.92 |
| Managerial role in sales                | 61       | 24.21 |
| Customer-facing account management role | 28       | 11.11 |
| Managerial role in account management   | 12       | 4.76  |
| Other                                   | 0        | 0.00  |
| <i>Age</i>                              |          |       |
| 18–25                                   | 55       | 21.83 |
| 26–35                                   | 63       | 25.00 |
| 36–45                                   | 46       | 18.25 |
| 46–55                                   | 45       | 17.86 |
| 56–65                                   | 23       | 9.13  |
| >65                                     | 20       | 7.94  |
| <i>Gender</i>                           |          |       |
| Male                                    | 118      | 46.83 |
| Female                                  | 134      | 53.17 |
| <i>Firm size</i>                        |          |       |
| Less than 250                           | 121      | 48.02 |
| 251 to 500                              | 32       | 12.70 |
| 501 to 1,000                            | 35       | 13.89 |
| 1,001 to 10,000                         | 39       | 15.48 |
| Over 10,000                             | 25       | 9.92  |
| <i>Product/service</i>                  |          |       |
| Product company                         | 54       | 21.43 |
| Service company                         | 70       | 27.78 |
| Both a product and a service company    | 51       | 20.24 |
| Distribution or retail company          | 77       | 30.56 |
| Don't know                              | 0        | 0.00  |
| <i>B2B vs B2C</i>                       |          |       |
| Business-to-business (B2B) company      | 52       | 20.63 |
| Business-to-consumers (B2C) company     | 118      | 46.83 |
| Both a B2B and B2C company              | 70       | 27.78 |
| Don't know                              | 12       | 4.76  |
| <i>Publicly traded vs Private</i>       |          |       |
| Publicly-traded                         | 56       | 22.22 |
| Privately-owned                         | 184      | 73.02 |
| Both                                    | 12       | 4.76  |
| <i>Years of experience</i>              |          |       |
| Less than 1 year                        | 20       | 7.94  |
| Between 1 and 5 years                   | 97       | 38.49 |
| Between 5 and 10 years                  | 63       | 25.00 |
| Between 10 and 20 years                 | 40       | 15.87 |
| More than 20 years                      | 32       | 12.70 |
| <i>Education</i>                        |          |       |
| Marketing and sales                     | 133      | 52.78 |

(continued)

Table 2. Continued

| Respondent characteristics                             | <i>n</i> | %     |
|--------------------------------------------------------|----------|-------|
| Finance and accounting                                 | 19       | 7.54  |
| Technical, industrial and engineering                  | 22       | 8.73  |
| None of the above                                      | 78       | 30.95 |
| <i>Industry</i>                                        |          |       |
| Airline industry; aerospace and defense industry       | 1        | 0.40  |
| Automotive industry, automotive components             | 6        | 2.38  |
| Machine industry                                       | 3        | 1.19  |
| Pharmaceutical and health-care industry                | 7        | 2.78  |
| Oil and gas, energy equipment                          | 2        | 0.79  |
| B2B services                                           | 12       | 4.76  |
| Consumer durables: appliances, textile industry        | 9        | 3.57  |
| Consumer products: food, beverage and household        | 20       | 7.94  |
| Hotels, restaurant and entertainment                   | 10       | 3.97  |
| Retailing and wholesaling                              | 92       | 36.51 |
| IT industry: software, IT equipment and Semiconductors | 15       | 5.95  |
| Media, entertainment and telecommunication industry    | 7        | 2.78  |
| Chemicals                                              | 3        | 1.19  |
| Electronics, electrical equipment                      | 7        | 2.78  |
| Metals and mining                                      | 2        | 0.79  |
| Financial services: banking and insurance              | 14       | 5.56  |
| Utilities: gas, water and electric                     | 4        | 1.59  |
| Other                                                  | 38       | 15.08 |

3.2 Measure development and assessment

All scales are from the current literature. Adaptations are indicated. The constructs, items and sources are in the [Appendix](#).

*3.2.1 Independent variables.* Individual EO is the self-assessed proclivity towards innovativeness, proactivity and risk-taking (J. G. Covin and Slevin, 1989), measured with a ten-item scale (Bolton and Lane, 2012).

EI is the self-acknowledged conviction to start a new venture and to plan to do so at some future moment (Thompson, 2009), a construct with good predictive ability for subsequent new venture creation (Kautonen *et al.*, 2015), measured with a three-item scale (Kautonen *et al.*, 2015).

Ambidexterity refers to joint exploration and exploitation, i.e. joint hunting and farming orientation, each measured with two four-item scales (DeCarlo and Lam, 2016; Lam *et al.*, 2019). Farming orientation measures sales professionals' preference for developing existing customers, hunting orientation measures sales professionals' preference for acquiring new customers. Assuming that hunting and farming are non-substitutable and interdependent, I follow prior studies and combine the scales into a single ambidexterity scale by multiplication (Lam *et al.*, 2019; Mura *et al.*, 2021; Zimmermann *et al.*, 2020). Ambidexterity thus refers to the joint preference for developing existing customer relationships and simultaneously pursuing new customer acquisition.

Role ambiguity refers to the perceived lack of information to perform the job adequately and the perceived uncertainty about job expectations (J. Singh, 1998), measured with a six-item scale (Rizzo *et al.*, 1970).

**3.2.2 Control variables.** Controls include age, gender, education, job experience, industry, seniority (managerial vs non-managerial role), job function (sales vs account manager), company size, company age, emotional attachment to company, price-value versus competitors (single-item scales) and the two variables resistance to change, a five-item scale (Inyang and Jaramillo, 2020; Oreg, 2003) and competitive intelligence (Rapp *et al.*, 2011), a three-item scale, used as marker variable and instrument variable, respectively, in prior related research.

**3.2.3 Dependent variables.** A review of the sales performance literature critically notes that 97% of studies use a single measurement approach, capturing either results or behaviours (Kerr and Marcos-Cuevas, 2022). Sales performance is multifaceted and spans activities, results, conversions and relationships (Bolander *et al.*, 2021). As in prior studies (Hinterhuber and Khan, 2026; Miao and Evans, 2007), I assess performance using both a qualitative and a quantitative indicator.

*Behaviour performance* measures the results, relative to colleagues, of qualitative indicators of sales effectiveness, such as relationship quality with customers, ability to solve customer problems and active listening. Seven-item scale, expanded from a four-item scale (Miao and Evans, 2007) based on the original 31-item scale (Behrman and Perreault, 1982).

*Selling performance* measures the results, relative to colleagues, of quantitative indicators of sales effectiveness, such as sales, orders, win rates, market share and profits, using a nine-item scale (Terho *et al.*, 2015), adapted from the original three-item scale (Homburg *et al.*, 2011).

## 4. Analysis and results

This research is exploratory: the objective is not to test extant theory but to build new theory. Hence, partial least squares structural equation modelling (PLS-SEM) is an appropriate analytical technique: “In situations where theory is less developed, researchers should consider the use of PLS-SEM” (Hair *et al.*, 2021, p. 15). In contexts where the focus is more on exploration than confirmation, PLS-SEM is preferable to covariance-based SEM (Hair *et al.*, 2021). In contrast to covariance-based models that minimise covariances between the sample and those predicted by the assumed true model, PLS-SEM is a variance-based model that maximises  $R^2$  values of the target, endogenous constructs. PLS-SEM is particularly indicated for small sample sizes, for non-normally distributed data and for calculating predictive scores, making it the analytical technique of choice for a rapidly increasing number of studies in marketing and other domains (Hair *et al.*, 2012, 2017).

### 4.1 Measurement model quality assessment

Firstly, it is necessary to assess construct reliability (i.e. Cronbach’s alpha and composite reliability) and validity (i.e. average variance extracted [AVE]). This study follows the recommendations (Hair *et al.*, 2021) on cut-off values for reliability and validity for indicators. All constructs have Cronbach’s alpha values and composite reliabilities above 0.70 and AVE values above 0.50 (see Table 3). Hence, the constructs display satisfactory reliability and validity according to standard assessment criteria.

Next, discriminant validity must be assessed. Firstly, none of the indicators’ cross-loadings exceeds their outer loadings. Secondly, the Fornell–Larcker criterion (Fornell and Larcker, 1981) is met, given that none of the constructs’ correlations with another construct exceeds the square root of their AVE (Table 3).

Finally, since cross-loadings and the Fornell–Larcker criterion do not always accurately assess discriminant validity, I follow the literature and also employ the heterotrait-monotrait ratio (HTMT) of correlations (Henseler *et al.*, 2015). The HTMT evaluates “the average of

Table 3. Reflective measurement model evaluation

| Latent Variable                        | Indicators | Convergent Validity |                       |       | Internal Consistency  |                  | Discriminant Validity                       |
|----------------------------------------|------------|---------------------|-----------------------|-------|-----------------------|------------------|---------------------------------------------|
|                                        |            | Loadings            | Indicator Reliability | AVE   | Composite Reliability | Cronbach's Alpha |                                             |
|                                        |            | >0.70               | >0.50                 | >0.50 | >0.70                 | >0.70            | HTMT confidence interval does not include 1 |
| Individual Entrepreneurial Orientation | IEO1       | 0.771               | 0.595                 | 0.577 | 0.932                 | 0.918            | Yes                                         |
|                                        | IEO2       | 0.783               | 0.613                 |       |                       |                  |                                             |
|                                        | IEO3       | 0.775               | 0.601                 |       |                       |                  |                                             |
|                                        | IEO4       | 0.775               | 0.601                 |       |                       |                  |                                             |
|                                        | IEO5       | 0.779               | 0.607                 |       |                       |                  |                                             |
|                                        | IEO6       | 0.703               | 0.494                 |       |                       |                  |                                             |
|                                        | IEO7       | 0.664               | 0.441                 |       |                       |                  |                                             |
|                                        | IEO8       | 0.789               | 0.623                 |       |                       |                  |                                             |
|                                        | IEO9       | 0.761               | 0.579                 |       |                       |                  |                                             |
|                                        | IEO10      | 0.788               | 0.621                 |       |                       |                  |                                             |
| Entrepreneurial Intent                 | EntI1      | 0.971               | 0.943                 | 0.950 | 0.983                 | 0.974            | Yes                                         |
|                                        | EntI2      | 0.985               | 0.970                 |       |                       |                  |                                             |
|                                        | EntI3      | 0.969               | 0.938                 |       |                       |                  |                                             |
| Farming Orientation                    | Ambi_Farm1 | 0.856               | 0.733                 | 0.708 | 0.907                 | 0.863            | Yes                                         |
|                                        | Ambi_Farm2 | 0.858               | 0.737                 |       |                       |                  |                                             |
|                                        | Ambi_Farm3 | 0.898               | 0.806                 |       |                       |                  |                                             |
|                                        | Ambi_Farm4 | 0.835               | 0.697                 |       |                       |                  |                                             |
| Hunting Orientation                    | Ambi_Hunt1 | 0.836               | 0.699                 | 0.743 | 0.920                 | 0.885            | Yes                                         |
|                                        | Ambi_Hunt2 | 0.864               | 0.747                 |       |                       |                  |                                             |
|                                        | Ambi_Hunt3 | 0.793               | 0.629                 |       |                       |                  |                                             |
|                                        | Ambi_Hunt4 | 0.871               | 0.759                 |       |                       |                  |                                             |
| Role Ambiguity                         | RoleA1R    | 0.742               | 0.550                 | 0.673 | 0.925                 | 0.903            | Yes                                         |
|                                        | RoleA2R    | 0.846               | 0.716                 |       |                       |                  |                                             |
|                                        | RoleA3R    | 0.807               | 0.651                 |       |                       |                  |                                             |
|                                        | RoleA4R    | 0.864               | 0.747                 |       |                       |                  |                                             |
|                                        | RoleA5R    | 0.864               | 0.747                 |       |                       |                  |                                             |
|                                        | RoleA6R    | 0.791               | 0.626                 |       |                       |                  |                                             |
| Sales Manager Behaviour Performance    | BehPerf1   | 0.773               | 0.597                 | 0.641 | 0.926                 | 0.906            | Yes                                         |
|                                        | BehPerf2   | 0.736               | 0.541                 |       |                       |                  |                                             |
|                                        | BehPerf3   | 0.771               | 0.595                 |       |                       |                  |                                             |
|                                        | BehPerf4   | 0.797               | 0.635                 |       |                       |                  |                                             |
|                                        | BehPerf5   | 0.809               | 0.654                 |       |                       |                  |                                             |
|                                        | BehPerf6   | 0.861               | 0.741                 |       |                       |                  |                                             |
|                                        | BehPerf7   | 0.850               | 0.723                 |       |                       |                  |                                             |
| Sales Manager Selling Performance      | SellPerf1  | 0.883               | 0.780                 | 0.736 | 0.962                 | 0.955            | Yes                                         |
|                                        | SellPerf2  | 0.878               | 0.772                 |       |                       |                  |                                             |
|                                        | SellPerf3  | 0.841               | 0.708                 |       |                       |                  |                                             |
|                                        | SellPerf4  | 0.861               | 0.742                 |       |                       |                  |                                             |
|                                        | SellPerf5  | 0.859               | 0.738                 |       |                       |                  |                                             |
|                                        | SellPerf6  | 0.831               | 0.690                 |       |                       |                  |                                             |
|                                        | SellPerf7  | 0.870               | 0.758                 |       |                       |                  |                                             |
|                                        | SellPerf8  | 0.867               | 0.751                 |       |                       |                  |                                             |
|                                        | SellPerf9  | 0.826               | 0.683                 |       |                       |                  |                                             |

(continued)

Table 3. Continued

| Latent Variable          | Indicators  | Convergent Validity |                       |       | Internal Consistency Reliability |                  | Discriminant Validity                       |
|--------------------------|-------------|---------------------|-----------------------|-------|----------------------------------|------------------|---------------------------------------------|
|                          |             | Loadings            | Indicator Reliability | AVE   | Composite Reliability            | Cronbach's Alpha |                                             |
|                          |             | >0.70               | >0.50                 | >0.50 | >0.70                            | >0.70            | HTMT confidence interval does not include 1 |
| Competitive Intelligence | CInt1       | 0.857               | 0.735                 | 0.722 | 0.886                            | 0.807            | Yes                                         |
|                          | CInt2       | 0.926               | 0.857                 |       |                                  |                  |                                             |
|                          | CInt3       | 0.758               | 0.575                 |       |                                  |                  |                                             |
| Resistance to Change     | [ResChang1] | [0.514]             | [0.264]               | 0.716 | 0.883                            | 0.805            | Yes                                         |
|                          | ResChang2   | 0.819               | 0.671                 |       |                                  |                  |                                             |
|                          | ResChang3   | 0.865               | 0.748                 |       |                                  |                  |                                             |
|                          | [ResChang4] | [0.575]             | [0.331]               |       |                                  |                  |                                             |
|                          | ResChang5   | 0.854               | 0.729                 |       |                                  |                  |                                             |

**Note(s):** R = Reverse coded, [...] = Deleted after scale purification

the heterotrait-heteromethod correlations (i.e. the correlations of indicators across constructs measuring different phenomena), relative to the average of the monotrait-heteromethod correlations (i.e. the correlations of indicators within the same construct)” and is used to examine whether it is below a specific threshold (Henseler *et al.*, 2015, p. 121). The HTMT threshold is 0.90. I examine all indicators and find that none exceeds the threshold value. Taken together, these results indicate discriminant validity.

#### 4.2 Common method bias and endogeneity

Common method bias is a possible concern in cross-sectional data collected from a single informant (Podsakoff *et al.*, 2003). It could appear that the use of self-assessed performance data constitutes a fatal flaw of the study. Researchers have, however, long argued that subjective performance evaluations by sales professionals are valid: “In summary, self-report evaluations are most appropriate when responses can be confidential, when much of the effort is not directly observable by the manager, when aspects of performance are not reflected in quantitative data, when multicompany samples are used, and when a reliable scale has been developed to tap different aspects of performance” (Behrman and Perreault, 1982, p. 357). This argument is plausible, but for sure not empirical. We need evidence, ideally meta-analytical.

In their review of 40 studies, Bommer *et al.* (1995, p. 597) find that objective and subjective employee performance assessments are significantly related, and that objective and subjective measures are “reasonably substitutable” when the same underlying performance construct is being measured. The meta-analysis of sales performance studies reviewed earlier (Churchill *et al.*, 1985) finds no evidence that self-reports are any better or worse than managerial evaluations at measuring performance. Furthermore, one of the meta-analytic reviews on role ambiguity and performance reviewed earlier finds that the results for self-rated performance are “similar” to results based on supervisor ratings or objective performance data: “researchers and practitioners may obtain some useful information from self-report data on stress and performance” (Gilboa *et al.*, 2008, p. 257).

I follow the guidelines and apply the procedural remedies against common method bias: participant anonymity, temporal separation between the dependent and independent variables and unambiguous scale items (Podsakoff *et al.*, 2003). Furthermore, a meta-analysis of the accuracy of key informants involving over 100 studies finds that the average accuracy is “adequate” for identifying medium and large effects (Homburg *et al.*, 2012, p. 605), and, noting the lower reliability in large organisations, concludes it is “particularly useful for research on small and medium-sized enterprises” (2012, p. 606). I note that in this study, about 50% of respondents work in small- and medium-sized companies. Crucially: “Key informants are significantly more reliable for constructs that refer to the present, [...] and that address salient events. In addition, there is some evidence that they are less reliable for constructs referring to the firm environment” (2012, p. 606). It should be noted that this study’s focal constructs all capture present, role-proximal perceptions, rather than judgements about the broader environment.

In addition, I also examine the effect of two variables, used separately in two prior studies as instrument variable and marker variable – competitive intelligence, a three-item scale (Rapp *et al.*, 2011), used as instrument variable in a study on value-based selling (Mullins *et al.*, 2020b); resistance to change, a five-item shortened scale (Oreg, 2003), used as marker variable in a study on salesperson implementation of sales strategy (Inyang and Jaramillo, 2020) – on the dependent variables. I do not find significant effects of these two variables (see Table 4).

Taken together, the data suggest that common method bias does not substantially affect the conclusions of the current study or those of other studies relying on self-reported data by sales professionals (Miao and Evans, 2013; Román and Iacobucci, 2010).

Table 4. Path model

| Construct                                     | Ambidexterity | Sales manager<br>behaviour<br>performance | Role<br>ambiguity | Sales manager selling<br>performance |
|-----------------------------------------------|---------------|-------------------------------------------|-------------------|--------------------------------------|
| Individual entrepreneurial<br>orientation     | 0.639***      | 0.196***                                  | −0.419***         | 0.143*                               |
| Ambidexterity                                 |               | 0.168**                                   |                   | 0.301***                             |
| Role ambiguity                                |               | −0.408***                                 |                   | −0.242***                            |
| Ambidexterity * Price value vs<br>Competitors |               |                                           |                   | −0.102**                             |
| Competitive intelligence                      |               | 0.065                                     |                   | 0.064                                |
| Resistance to change                          |               | −0.060                                    |                   | 0.069                                |
| Emotional attachment to company               |               | 0.001                                     |                   | −0.055                               |
| Price value vs Competitors                    |               | 0.035                                     |                   | −0.024                               |
| B2B vs B2C                                    |               | −0.020                                    |                   | −0.034                               |
| Discretionary industry                        |               | 0.069                                     |                   | 0.090*                               |
| Sales vs Account manager                      |               | −0.030                                    |                   | −0.030                               |
| Manager vs Nonmanager                         |               | 0.019                                     |                   | −0.041                               |
| Job experience                                |               | 0.018                                     |                   | 0.049                                |
| Age                                           |               | 0.037                                     |                   | 0.014                                |
| Sex                                           |               | 0.028                                     |                   | 0.022                                |
| Size                                          |               | 0.050                                     |                   | 0.006                                |
| R <sup>2</sup>                                | 0.409         | 0.467                                     | 0.176             | 0.394                                |
| Q <sup>2</sup>                                | 0.395         | 0.274                                     | 0.107             | 0.253                                |

**Note(s):** The italic data indicate statistically significant estimates. \**p*-value < 0.1; \*\**p*-value < 0.05; \*\*\**p*-value < 0.01

Endogeneity occurs when the independent variable correlates with the error term as a result of measurement errors, omitted variables, simultaneity or other factors (Ullah *et al.*, 2018). In the context of the current study, I address endogeneity via control variables. “A straightforward way of handling, or at least reducing, endogeneity is to specify a set of control variables” (Hult *et al.*, 2018, p. 3). This is because “[u]sing several control variables can also help in controlling for omitted variable bias” (Ullah *et al.*, 2021, p. 3). More specifically: “Best practice dictates the inclusion of all theoretically relevant covariates in a statistical model” (Anderson *et al.*, 2022, p. 9). I include a very broad set of control variables, including industry, firm size, firm age, respondent job experience, age, gender, educational background, emotional attachment to company and the relationship between value and price of own products/services versus competitive offers. Control variables are all non-significant, except for industry (see below).

In sum, the available evidence indicates that common method bias and endogeneity do not appear to be present in the current study.

#### 4.3 Structural model

This study uses 5,000 bootstrapping re-samples and one-tailed tests to estimate the significance of the structural model’s standardised path coefficients ( $\beta$ ) (Figure 2). Because PLS-SEM does not make distributional assumptions, bootstrapping is used to allow for significance testing of these path coefficients (Hair *et al.*, 2021). Path coefficients are listed in Table 4.

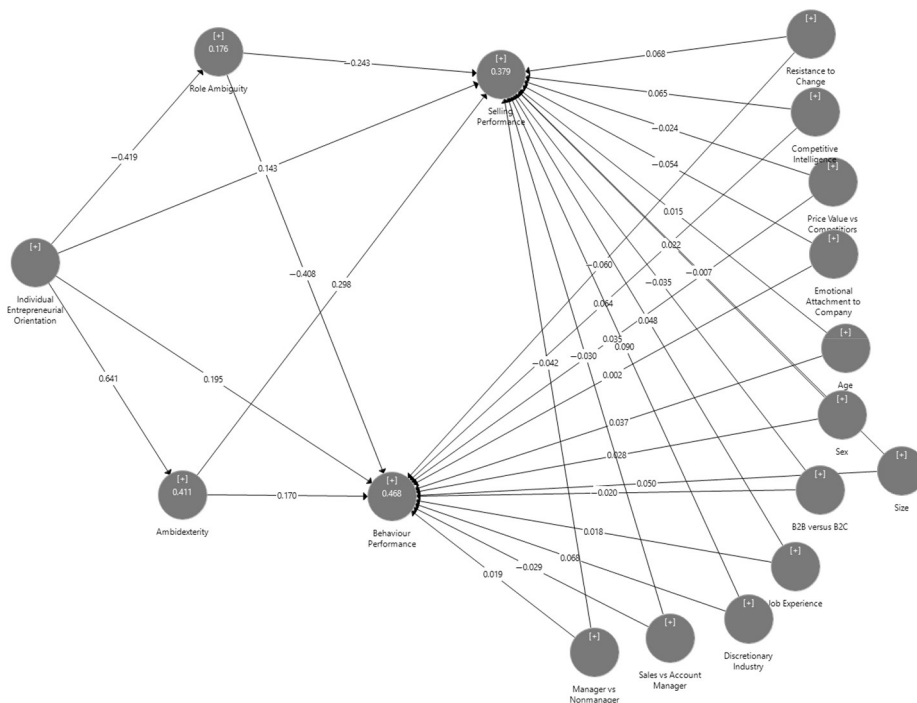


Figure 2. Final structural model

Individual EO is positively and significantly related to behaviour performance (*H1a*,  $\beta = 0.19$ ,  $p < 0.01$ ) and selling performance (*H1b*,  $\beta = 0.14$ ,  $p < 0.1$ ). EO thus increases behaviour performance and selling performance. EO is also positively and significantly related to ambidexterity (*H2*,  $\beta = 0.64$ ,  $p < 0.01$ ), and ambidexterity, in turn, is positively and significantly related to behaviour performance (*H3a*,  $\beta = 0.168$ ,  $p < 0.05$ ) and selling performance (*H3b*,  $\beta = 0.30$ ,  $p < 0.01$ ).

As expected, EO is significantly and negatively related to role ambiguity (*H5*,  $\beta = -0.41$ ,  $p < 0.01$ ) and, finally, role ambiguity is significantly and negatively related to both behaviour performance (*H6a*,  $\beta = -0.41$ ,  $p < 0.01$ ) and selling performance (*H6b*,  $\beta = -0.24$ ,  $p < 0.01$ ).

Following prior studies that also examine interaction effects (Ingenbleek *et al.*, 2003), the moderation analysis reveals that price-value versus competitors negatively moderates the ambidexterity-selling performance relationship ( $\beta = -0.10$ ,  $p < 0.05$ ), indicating that the positive effect of ambidexterity on selling performance is weaker when sales professionals perceive their offering's price-value relationship as more favourable relative to competitors. Stated differently, a strong competitive price-value relationship partly substitutes for ambidexterity. When the offer is already attractive relative to competitors, the marginal benefit of jointly hunting and farming is smaller; when the firm's price-value position is less favourable *vis-à-vis* competitors, ambidexterity matters more for selling performance (Table 4). Because price-value versus competitors is measured with a single-item scale, the observed moderation effect must be interpreted very cautiously, in line with Hair *et al.* (2021, p. 246), who "advise against" single items for abstract, unobservable moderators.

All controls are non-significant except industry, coded as discretionary versus non-discretionary, which is significant for one dependent variable, consistent with meta-analytic findings (Hizarci *et al.*, 2023; Rauch *et al.*, 2009).

**4.3.1 Mediation.** I follow the standard analytical guidelines (Nitzl *et al.*, 2016) and report data for mediation analysis in Table 5. As per guidelines (Hair *et al.*, 2021), this study tests the direct path alongside the indirect paths. The total coefficient for the EO-behaviour performance is 0.475 with a 90% bias corrected confidence interval [0.376;0.560], the total coefficient for the EO-selling performance is 0.437, interval [0.330;0.649]. The mediation from EO is therefore complementary or partial for both paths (Chin, 2010). *H4a*, *H4b*, *H7a* and *H7b* are thus supported.

The final structural model is in Figure 2.

#### 4.4 Model evaluation

The model explains a good amount of the variance: 47% in behaviour performance and 39% in selling performance (Table 4). The effect size  $f^2$  indicates the change in the  $R^2$  value of the endogenous constructs when a specific exogenous construct is omitted (Hair *et al.*, 2021): the effect size is largest for ambidexterity and role ambiguity and above 0.02 for all other constructs, indicating good model quality (Table 6).

Finally, PLS allows an assessment of the predictive relevance of the exogenous constructs on the endogenous variables by estimating Stone–Geisser's  $Q^2$  (Stone, 1974; Geisser, 1974). The structural model displays good predictive relevance (Table 4). Specifically, the  $Q^2$  value for individual EO on ambidexterity is large (0.395), for EO on role ambiguity is medium (0.1) and is medium again for EO on behaviour performance (0.27) and selling performance (0.25).

Finally, addressing unobserved heterogeneity is important, as results could be biased by heterogeneity resulting from unobservable group differences (Sarstedt and Ringle, 2010). The most prominent latent class approach for ascertaining that heterogeneity does not influence results, and thus supporting analysis of a single model, is finite mixture PLS (FIMIX-PLS) (Hair *et al.*, 2021). This study performs FIMIX-PLS to detect whether an

**Table 5.** Mediation analysis

| Relations                                                                                            | Hypotheses | Total effect                                           |                                           | Indirect effect        |                                           | Direct effect       |                                           |
|------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------|-------------------------------------------|------------------------|-------------------------------------------|---------------------|-------------------------------------------|
|                                                                                                      |            | Coefficient<br>(c' + a <sub>i</sub> * b <sub>i</sub> ) | 90% bias corrected<br>confidence interval | Coefficient<br>(a * b) | 90% bias corrected<br>confidence interval | Coefficient<br>(c') | 90% bias corrected<br>confidence interval |
| <i>Individual entrepreneurial orientation</i> → <i>Behaviour performance</i>                         | H1a        | 0.475                                                  | [0.376; 0.560]                            | –                      | –                                         | 0.196               | [0.086; 0.305]                            |
| <i>Individual entrepreneurial orientation</i> → <i>Role ambiguity</i> → <i>Behaviour performance</i> | H7a        | –                                                      | –                                         | 0.171                  | [0.118; 0.230]                            | –                   | –                                         |
| <i>Individual entrepreneurial orientation</i> → <i>Ambidexterity</i> → <i>Behaviour performance</i>  | H4a        | –                                                      | –                                         | 0.108                  | [0.034; 0.189]                            | –                   | –                                         |
| <i>Individual entrepreneurial orientation</i> → <i>Selling performance</i>                           | H1b        | 0.437                                                  | [0.330; 0.649]                            | –                      | –                                         | 0.143               | [0.025; 0.266]                            |
| <i>Individual entrepreneurial orientation</i> → <i>Role ambiguity</i> → <i>Selling performance</i>   | H7b        | –                                                      | –                                         | 0.101                  | [0.048; 0.160]                            | –                   | –                                         |
| <i>Individual entrepreneurial orientation</i> → <i>Ambidexterity</i> → <i>Selling performance</i>    | H4b        | –                                                      | –                                         | 0.193                  | [0.125; 0.279]                            | –                   | –                                         |

**Note(s):** The highlighted effects are significant because the reported 90% bias-corrected confidence intervals do not include zero

Table 6. Effect sizes

| Construct                              | Ambidexterity | Sales manager behaviour performance | Role ambiguity | Sales manager selling performance |
|----------------------------------------|---------------|-------------------------------------|----------------|-----------------------------------|
| Individual entrepreneurial orientation | 0.697         | 0.033                               | 0.213          | 0.015                             |
| Ambidexterity                          |               | 0.027                               |                | 0.071                             |
| Role ambiguity                         |               | 0.231                               |                | 0.070                             |
| Competitive intelligence               |               | 0.005                               |                | 0.004                             |
| Resistance to change                   |               | 0.006                               |                | 0.007                             |
| Emotional attachment to company        |               | 0.000                               |                | 0.004                             |
| Price value vs Competitors             |               | 0.002                               |                | 0.001                             |
| B2B vs B2C                             |               | 0.001                               |                | 0.002                             |
| Discretionary industry                 |               | 0.008                               |                | 0.012                             |
| Sales vs Account manager               |               | 0.002                               |                | 0.001                             |
| Manager vs Nonmanager                  |               | 0.001                               |                | 0.003                             |
| Job experience                         |               | 0.000                               |                | 0.002                             |
| Age                                    |               | 0.002                               |                | 0.000                             |
| Sex                                    |               | 0.001                               |                | 0.001                             |
| Size                                   |               | 0.004                               |                | 0.000                             |

unobserved group biases path coefficients in the model. FIMIX-PLS shows that for a two-segment solution, the first segment (~80%) is much larger than the second segment (~20%), indicating that an unidentified group does not materially bias model estimates (Hair *et al.*, 2018; Hirsch *et al.*, 2018).

4.5 Post hoc analysis: Effect of entrepreneurial intent on sales performance

I also test an alternative, apparently related, yet substantially distinct construct: EI. Based on the theory of planned behaviour that conceptualises intentions as antecedents of behaviour (Ajzen, 1991, 2011), several meta-analytic reviews find that intentions explain about 28% of the variance in subsequent behaviour across domains (Armitage and Conner, 2001; Sheeran, 2002).

Does EI – the “self-acknowledged conviction by a person that they will set up a new business venture and consciously plan to do so at some point in the future” (Thompson, 2009, p. 687)– lead to subsequent new venture creation? Several studies find that entrepreneurial intentions explain about 30% of the variance in subsequent start-up activities (Delanoë-Gueguen and Liñán, 2019; Kautonen *et al.*, 2015; Kibler *et al.*, 2014; Liñán and Fayolle, 2015). EI is thus a “good predictor of subsequent entrepreneurial actions” (Kautonen *et al.*, 2015, p. 668). Stated differently: EI identifies future entrepreneurs quite reliably.

I thus test, analogously to the hypothesised relationships for EO, the effect of EI on ambidexterity, role ambiguity and sales performance. Table 7 lists the path coefficients.

EI is not significantly related to behaviour performance ( $\beta = 0.02$ ,  $p = \text{n.s.}$ ) or selling performance ( $\beta = 0.09$ ,  $p = \text{n.s.}$ ). EI is positively and significantly related to ambidexterity ( $\beta = 0.128$ ,  $p < 0.01$ ) and ambidexterity, in turn, is again positively and significantly related to behaviour performance ( $\beta = 0.246$ ,  $p < 0.01$ ) and selling performance ( $\beta = 0.35$ ,  $p < 0.01$ ). EI is not significantly related to role ambiguity ( $\beta = 0.044$ ,  $p = \text{n.s.}$ ) and, finally, role ambiguity is significantly and negatively related to both behaviour performance ( $\beta = -0.438$ ,  $p < 0.01$ ) and selling performance ( $\beta = -0.277$ ,  $p < 0.01$ ). Also, here the controls are not significant except for industry. Thus, the post hoc analysis indicates that EI has no direct effect on either behavioural performance or selling performance.

**Table 7.** Post hoc analysis: path model (EI)

| Construct                                     | Ambidexterity | Sales manager<br>behaviour<br>performance | Role<br>ambiguity | Sales manager selling<br>performance |
|-----------------------------------------------|---------------|-------------------------------------------|-------------------|--------------------------------------|
| Individual intent                             | 0.128*        | 0.020                                     | 0.044             | 0.093                                |
| Ambidexterity                                 |               | 0.246***                                  |                   | 0.350***                             |
| Role ambiguity                                |               | -0.438***                                 |                   | -0.277***                            |
| Ambidexterity * Price value vs<br>Competitors |               |                                           |                   | -0.102**                             |
| Competitive intelligence                      |               | 0.127**                                   |                   | 0.092                                |
| Resistance to change                          |               | -0.058                                    |                   | 0.073                                |
| Emotional attachment to company               |               | -0.002                                    |                   | -0.060                               |
| Price value vs Competitors                    |               | 0.041                                     |                   | -0.017                               |
| B2B vs B2C                                    |               | 0.000                                     |                   | 0.064                                |
| Discretionary industry                        |               | 0.064                                     |                   | 0.085*                               |
| Sales vs Account manager                      |               | -0.033                                    |                   | -0.030                               |
| Manager vs Nonmanager                         |               | 0.025                                     |                   | -0.034                               |
| Job experience                                |               | 0.026                                     |                   | 0.055                                |
| Age                                           |               | 0.025                                     |                   | 0.001                                |
| Sex                                           |               | 0.022                                     |                   | 0.012                                |
| Size                                          |               | 0.060                                     |                   | 0.004                                |
| R <sup>2</sup>                                | 0.409         | 0.467                                     | 0.176             | 0.394                                |
| Q <sup>2</sup>                                | 0.395         | 0.274                                     | 0.107             | 0.253                                |

**Note(s):** \* =  $p$ -value < 0.1; \*\* =  $p$ -value < 0.05; \*\*\* =  $p$ -value < 0.01

## 5. Discussion

A very thoughtful paper argues that there are three ways to generate courageous research ideas: observe, bridge and challenge (Kock *et al.*, 2020). This study is the result, as the opening quote suggests, of the “observe the world” approach (p. 1142), where a vivid real-world phenomenon sparked the curiosity of this writer. A top manager’s aspiration for salespeople to embody entrepreneurial traits seems reasonable – after all, entrepreneurs are often linked to innovation, risk-taking and self-determination. However, one critical question remains unasked and unanswered by this manager: if salespeople exhibit entrepreneurial traits, does this *really* lead to high performance? This is the question that, first of all, a master’s thesis student of this writer asked and that sparked the interest in this study.

A foundational principle of this study is the idea that EO should be analysed at the individual level – and not at the level of the firm by polling CEOs. Practising managers seem to concur: Louis Gerstner (Gerstner, 2015), credited with turning IBM around in the face of imminent bankruptcy, commented: “Why did four CEOs not turn around AT&T and it had to be sold to one of its former child? [Sic: *Author comments: SBC, a former subsidiary, purchased AT&T in 2005*]. Why did three CEOs not turn around Eastman Kodak? Did they not see digital photography? They invented it! And at AT&T, did they not see mobile? They invented it! [...] What happens is: CEOs say: ‘We have to change, there is where we are going’. And they point somewhere else and nobody turns and follows them”. Gerstner thus seems to suggest that any EO of the CEO is irrelevant unless individual employees think and act differently. Prior research has called for “reintroduc[ing] the individual in entrepreneurial orientation research” (Krauss *et al.*, 2005, p. 315). This study answers this call.

By bridging the entrepreneurship and sales management literatures, this study addresses the important research question of whether and how EO matters to individual performance

by identifying the underlying mechanisms while examining, post hoc, also the role of EI for individual performance. This is an important research question, since entrepreneurial behaviour by salespeople is today still a “black box” (Y. Zhao *et al.*, 2025, p. 985). The empirical findings have important theoretical and practical implications.

### 5.1 Implications for theory

Firstly, I show, to the best of my knowledge, for the first time, that EO benefits sales professionals, thus extending the literature that has documented the positive effects for CEOs (Rauch *et al.*, 2009), academics (Clarysse *et al.*, 2011) and entrepreneurs (Krauss *et al.*, 2005). Addressing a call for such studies (Kollmann and Stöckmann, 2014), this study examines how EO is converted into specific activities that drive tangible performance outcomes. Specifically, I document that both ambidexterity and low role ambiguity play a fundamental role in converting an individual entrepreneurial disposition into behavioural and financial performance outcomes. In doing so, I answer calls for further research illuminating intermediary mechanisms in the EO–performance relationship (Jiang *et al.*, 2021; W. J. Wales *et al.*, 2013).

The two mediating variables that convert EO into superior performance are ambidexterity and role ambiguity: EO is inherently about bringing about change, and ambidexterity operationalises the specific actions that individuals can implement to bring about change. Yet, while EO-induced change is beneficial, scholars call for the examination of elements related to the fundamental need of all organisations of “stability, focus and control” (J. Covin and Wales, 2019, p. 11). Low role ambiguity is one such factor. The two mediating variables in this study are thus like yin and yang, complementing and reinforcing each other: yin, the stable element, is represented by low role ambiguity and yang, the ever-changing element, is represented by high ambidexterity, i.e. the ability of sales professionals to acquire new customers while at the same time harvesting existing customer relationships. This study, therefore, also answers a call for empirical studies examining the so far neglected static elements of EO (Covin and Wales, 2019).

Furthermore, there is some potential evidence suggesting that a more favourable price-value relationship *vis-à-vis* competitors weakens the positive effect of ambidexterity on selling performance: a strong competitive price-value proposition may partly substitute for ambidexterity, although the finding should be interpreted very cautiously given the single-item measurement of the moderator (Hair *et al.*, 2021).

Secondly, this study highlights the differential impacts of EO and EI on individual performance. EI, a construct measuring an action orientation, surprisingly has no direct effect on performance; EO, a construct measuring a disposition, instead has a direct effect. From a theoretical perspective, these findings document that inside established companies, thinking like an entrepreneur is more beneficial than acting like one. So far, studies have nearly exclusively explored the effect of EI on new venture creation, finding strong direct effects (Meoli *et al.*, 2020; Zhao *et al.*, 2010). Inside a company, the relationships are more complex: a high EI increases ambidexterity, which, in turn, increases performance – there is no direct relationship to performance. This is in stark contrast to EO, which has strong direct and indirect performance effects. EI, like EO, is associated with ambidexterity, indicating the ability to efficiently harvest opportunities available today and to creatively build opportunities available only in the future. This disparity in the chain between EO/EI and performance points towards the very different nature of individuals that think like entrepreneurs (high EO) versus those who report specific entrepreneurial intentions (high EI): Entrepreneurship is an “extreme setting” and an “emotional rollercoaster” where success depends, according to a meta-analytic review, more on emotional intelligence than on

analytical intelligence (Allen *et al.*, 2021, p. 352). Individuals high in EI are the likely entrepreneurs of tomorrow – willing to assume personal risks (Schumpeter, 1911), emotionally intelligent and probably nurturing ambitions beyond merely selling (Åstebro and Thompson, 2011), traits that are all beyond the scope of this study – but they are not high-performing sales professionals. Individuals with high EO, by contrast, are. In this light, EO is a dynamic capability (Wales *et al.*, 2021): it has strong direct effects on individual performance, it is associated with ambidexterity as well as with role ambiguity, and it thus helps individuals in sense-making, in shaping their external environment, and in encouraging them to exploit and explore at the very same time.

Thirdly, this study is one of the first to empirically link the entrepreneurship and selling literatures, two streams that have long evolved but, counterintuitively, with little theoretical overlap. “We contend that selling is a fundamental entrepreneurial activity, but that it is rarely an area of focus within core entrepreneurship theories” (Matthews *et al.*, 2018, p. 691). Sales is arguably the function of a company that has the largest opportunity for entrepreneurial action: “Senior sales leaders, field sales managers, and salespeople are essentially ‘running a business’ within the overall company business operation” (Ingram *et al.*, 2005, p. 150). It is thus surprising that we know so little about the effect of EO in the context of selling. Selling consists of exploitative actions to capture opportunities at hand and explorative actions to create future opportunities. This study documents that research at the intersection of entrepreneurship and selling is fruitful and helps uncover a set of mechanisms that contribute to our understanding of entrepreneurial processes in established firms, thereby advancing theory. Results show that viewing processes – here: the sales process – in established firms through the lens of the entrepreneurship literature is extremely fruitful and could thus serve as a benchmark for future studies.

## 5.2 Implications for practice

**5.2.1 Abandon scripts.** The profession of selling formally developed in the 1800s when John Patterson, founder of National Cash Register Company, created one of the first formal sales training systems, consisting of four phases – approach, proposition, demonstration and close – based on rigid scripts with the objective of creating a market for the nascent cash register technology and of overcoming customer objections (Inks *et al.*, 2019). Today, sales scripts are everywhere: Sandler, a sales training company calling itself the world’s largest, bases its training essentially on a modern version of Patterson’s scripts. Scripts are, needless to say, the death of innovativeness, proactivity and risk-taking. Results of this study suggest letting each sales professional find his or her voice in the sales process, stimulating as much as possible the individual EO and using scripts only inasmuch as they help reduce role ambiguity or increase ambidexterity. For many organisations, this could well mean abandoning scripts altogether.

**5.2.2 Stimulate entrepreneurial thinking.** There is likely no senior business leader who does not wish to make her or his organisation more entrepreneurial. It is tempting to think that the best salespeople are aspiring entrepreneurs. There are examples: Howard Schultz, founder of Starbucks, was a “star employee” as Xerox sales rep (Krass, 1999, p. 300), Ross Perot, founder of EDS, a “top salesman” at IBM (p. 382); Thomas Watson, IBM’s founder, was a “selling genius” working for John Patterson (p. 424); Alfred Fuller, founder of the Fuller Brush company, “excelled” as a salesman (p. 365); Herman Lay, founder of Frito-Lay, was a salesman (p. 434); and Samuel Goldwyn, founder of the eponymous movie studio, was a “top salesman” at a glove factory (p. 486). It is indeed tempting to conclude that the best-performing salespeople are all aspiring entrepreneurs. Tempting, but wrong – since the evidence, littered with some of the world’s most successful entrepreneurs, is anecdotal only.

This quantitative study highlights the crucially important distinction between EO and EI. Thinking like an entrepreneur increases sales performance; behaving like an entrepreneur preparing to set up their own venture does not. The key drivers for increased performance in the sales organisation are thus innovativeness, proactivity and risk-taking, ambidexterity and role clarity, all of which substantially increase sales performance. The opening quote of this paper (“Being a salesperson is like being an entrepreneur in your own territory”), delivered by a sales manager of a multibillion-dollar company to newly hired sales managers, one of whom was a former graduate student of this writer, is best qualified as follows: *Salespeople should think like entrepreneurs, but not aspire to become entrepreneurs.*

### 5.3 Implications for public policy

The sales profession is highly relevant to national economies. In the USA, there are currently more than 13 million persons working in sales, amounting to roughly 9.4% of all salaried positions (Bureau of Labor Statistics, 2021). Sales positions have the largest overall variability in output: across all jobs, the top 1% are more than twice as productive as the average worker, but for sales positions, the ratio is as high as 4:1 (Hunter *et al.*, 1990). This high output variability implies a high economic and social cost of underperformance. Behind every great company, there is a high-performing salesforce. “When salespeople do well, the organization is likely doing well [...] salespeople still represent the most visible signs of corporate success” (Rich *et al.*, 1999, p. 41). When organisations do well, the overall economy is likely doing well. There is thus a public policy interest in companies and in improving the performance of the sales function.

What drives sales performance? Sales performance is driven by the development of an entrepreneurial mindset – innovation, proactivity and risk-taking – by developing capabilities to efficiently manage today and to creatively prepare for the future and, finally, by clarifying the changing role of sales professionals: all these measures improve performance, thereby creating societal value.

### 5.4 Limitations and future research

Several choices underlie the present study. Some of these constitute potential limitations. Future studies should assess their importance and impact on the validity of the findings.

**5.4.1 Single-country study.** This is a single-country study, like other pioneering EO studies (Clarysse *et al.*, 2011; J. G. Covin *et al.*, 2006; de Jong *et al.*, 2015; Engelen *et al.*, 2014; Ferreras-Méndez *et al.*, 2022; Jiang *et al.*, 2021; Kollmann and Stöckmann, 2014; T. Lumpkin and Dess, 2001; Palmer *et al.*, 2019; Perry *et al.*, 2016). This focus, typically on countries like the USA, the UK, China and Germany, seems to characterise overall research patterns: a recent bibliometric review finds that research in international EO has “lagged behind” and that the overall research output is “quite limited” (Gupta *et al.*, 2021, p. 75). In addition, research on the relationship between EO and national culture was found to be equally “very limited” (J. G. Covin and Miller, 2014, p. 22). Research examining the interaction between EO and national culture could be highly fruitful, thus exploring, not unlike Hofstede’s country scores (Hofstede, 2001), how innovativeness, proactivity and risk-taking differ across countries and how these differences translate into overall performance. Equally interesting for future studies is the question of whether  $R^2$  values and the path coefficients in this model – values that are quite high by any standard (Chin, 1998; Hair *et al.*, 2021) – hold true in other contexts.

**5.4.2 Single-level study.** This study collects a single data point from a single respondent across hundreds of companies, an approach taken by literally all other studies of the chain between EO and performance. The next logical step is multi-level studies where, in a single

company, members of the top management team, middle managers and managers with operational responsibilities are polled on EO, which would then allow examining the relative contribution of EO transmitted through supervisors *vis-à-vis* the EO resulting from individual personality traits. At the moment, research has examined individual psychological traits as key antecedents of individual EO (Rauch and Frese, 2007). True multi-level studies – data collected from three different hierarchical levels – are literally non-existent in EO and, more broadly, in management research, but they would make meaningful contributions. In this sense, the study by Liu and Xi (2022), collecting data from CEOs and middle managers and finding that CEOs influence the confidence of the latter, is an important preview of the design of studies to come.

**5.4.3 Construct definition.** As outlined in the introduction, a near dogmatic obsession with defining EO at the firm level based on CEO self-assessments has characterised research for decades. This is one important self-afflicted limitation: several other disciplines, first of all entrepreneurship, but also strategic management and others, have witnessed an increased interest in micro-foundations, in the exploration of relationships between individual personal traits or individual biases and outcomes at the organisational level (Felin and Foss, 2005; Helfat *et al.*, 2007; Hinterhuber and Liozu, 2017; Rauch and Frese, 2007). In this study, I define EO as an individual-level propensity, and one could view this as a limitation given that the literature predominantly defines the construct at a higher level of abstraction. I contend that the logical connection between individual performance outcomes and individual activities requires a definition of EO at exactly this level.

**5.4.4 Single function.** Several studies assert that salespeople have more freedom to act entrepreneurially than those fulfilling any other function in the company (Jones *et al.*, 2000; Morris *et al.*, 1990). Examining the impact of EO on the performance of salespeople specifically is thus warranted. Future studies could explore the effect of EO on the performance of other important organisational functions, such as new product development, R&D, HR or finance. It is not at all clear, but it is theoretically very interesting, whether for other organisational functions this effect is positive.

**5.4.5 Future research.** Individual EO is a fascinating research domain with many promising avenues for future research.

**5.4.6 One is context.** A further fruitful avenue for future studies is the examination of the moderating role of context – who, when and where – on key variables identified in this and other studies. The authors of a prior meta-analytic review on EO call for further studies examining “additional moderators” (Zhao *et al.*, 2010, p. 398). Newbert *et al.* (2022), p. 2 write: “We have tended to employ theories meant to predict context-free phenomena to propose and/or test conceptual models that are not context-free”. Key, according to this line of thought, is the examination of “whether and how our theories hold up across distinct locations, at various times, and for different types of entrepreneurs”. We need to examine ‘boundary conditions’ to better understand when key relationships “no longer hold or reverse direction”. Combs *et al.* (2021), p. 347. In sum, the separate or, ideally, joint examination of micro-foundations and contextual variables will help to identify boundary conditions of our theories and contribute to outcomes at the organisational level.

A further fruitful avenue is the development of multi-level frameworks on antecedents of EO. On one level, external factors are antecedents: extant research points out that external pressure is beneficial for EO (Williams *et al.*, 2024). The next level is organisational factors: external focus (Brettel *et al.*, 2015) and empowering leadership behaviours (Kim and Beehr, 2023) are conducive to an EO. Finally, micro-foundations or individual-level characteristics. The literature in marketing, strategy and entrepreneurship has all begun to explore causal links between individual mental schemas and outcomes at the organisational level (Barney and Felin, 2013) – but research has only just begun, and future opportunities are substantial.

Fayolle and Liñán (2014, p. 664) write: “Significant progress” could be made if future research investigated “the role and the importance of mental prototypes, cognitive scripts, mental schemas”. This interest in the psychology of entrepreneurial actions and dispositions is widely shared: “Future research could further integrate constructs from I/O psychology to provide a more comprehensive approach towards entrepreneurship” (Frese and Gielnik, 2014, p. 431). Future studies could thus integrate these factors into a single multilevel framework to assess the relative importance of external, organisational and individual drivers in fostering EO.

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### Note

- [1.] Although only individuals working in a selling function received the invitation to participate, their roles could have changed between the last update of the database by the panel provider and the survey.

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### Further reading

- Kuratko, D.F. and Covin, J.G. (2025), "Fifty years of entrepreneurship: Recalling the past, examining the present, and foreshadowing the future", *Journal of Business Research*, Vol. 186, p.114980.

Table A1. Constructs, items and sources

| Measures                                                       | Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sources                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Entrepreneurial orientation</i>                             | How much do you agree with the following statements about yourself?<br><br><i>Risk taking</i><br>I like to take bold action by venturing into the unknown<br>I am willing to invest a lot of time and/or money on something that might yield a high return<br>I tend to act “boldly” in situations where risk is involved<br><i>Innovativeness</i><br>I often like to try new and unusual activities that are not typical but not necessarily risky<br>In general, I prefer a strong emphasis in projects on unique, one-of-a-kind approaches rather than revisiting tried and true approaches used before<br>I prefer to try my own unique way when learning new things rather than doing it like everyone else does<br>I favour experimentation and original approaches to problem-solving rather than using methods others generally use for solving their problems<br><i>Pro-activeness</i><br>I usually act in anticipation of future problems, needs or changes<br>I tend to plan ahead on projects<br>I prefer to “step-up” and get things going on projects rather than sit and wait for someone else to do it | 10-item, 7-point scale, 3 dimensions (anchored at “not at all” and “very much”) ( <a href="#">Bolton and Lane, 2012</a> )                                                                                                                               |
| <i>Entrepreneurial intent</i>                                  | How much do you agree with the following statements about yourself?<br><br>I plan to take steps to start a business in the next 12 months<br>I intend to take steps to start a business in the next 12 months<br>I will try to take steps to start a business in the next 12 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Three-item, seven-point scale (anchored at “strongly disagree” and “strongly agree”) ( <a href="#">Kautonen et al., 2015</a> )                                                                                                                          |
| <i>Hunting orientation, farming orientation; ambidexterity</i> | How well do the following statements describe your attitude about sales?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Hunting and farming orientation: four-item, seven-point scales (anchored at “not at all” and “very much”) ( <a href="#">Lam et al., 2019</a> ), adapted from the original by <a href="#">DeCarlo and Lam (2016)</a> , multiplied to yield ambidexterity |

(continued)

**Table A1.** Continued

| Measures                                 | Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sources                                                                                                                                                                                                  |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                          | <p><i>Hunting orientation</i></p> <p>To “hunt” for a new sales opportunity is the most enjoyable part of the job</p> <p>I am at my best when I engage a new prospect that I have never met before</p> <p>I prefer to spend the majority of my day prospecting and closing new accounts</p> <p>The most enjoyable part of the job is selling to new accounts</p> <p><i>Farming orientation</i></p> <p>Spending time working with current customers is the most enjoyable part of the job</p> <p>My best attributes are my customer relations skills, where I work for the best interests of my current customers</p> <p>The most gratifying is working with an established customer</p> <p>Of all my responsibilities, I most enjoy using my skills to maintain and grow existing accounts</p> |                                                                                                                                                                                                          |
| <i>Role ambiguity</i>                    | <p>How much do you agree with the following statements about your job? (<i>all items are reverse coded</i>)</p> <p>I feel certain about how much authority I have</p> <p>I have clear, planned goals and objectives for my job</p> <p>I know I have divided my time properly while performing the tasks connected with my job</p> <p>I know what my responsibilities are in my job</p> <p>I know exactly what is expected of me</p> <p>The explanations are clear about what has to be done in my job</p>                                                                                                                                                                                                                                                                                     | <p>Six-item, seven-point scale (anchored at “strongly disagree” and “strongly agree”) (<a href="#">Rizzo et al., 1970</a>)</p>                                                                           |
| <i>Sales manager selling performance</i> | <p>Compared with your colleagues, how do you evaluate your overall performance with regard to the following elements?</p> <p>Achieved sales in the past 12 months?</p> <p>Achieved orders in the past 12 months?</p> <p>Achieved total contribution margin in the past 12 months?</p> <p>Win rate (relationship offer to orders) in the past 12 months?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>Nine-item, seven-point scale (anchored at “much worse” and “much better”) (<a href="#">Terho et al., 2015</a>), adapted from the original three-item scale (<a href="#">Homburg et al., 2011</a>)</p> |

(continued)

Table A1. Continued

| Measures                                           | Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sources                                                                                                                                                                              |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Sales manager<br/>behaviour<br/>performance</i> | Exceeding the sales targets and objectives that are assigned to me?<br>Selling products/services with higher profit margins?<br>Generating a high dollar amount of sales in my territory?<br>Producing a high market share for my company in my territory?<br>Identifying and selling to major accounts in my territory?<br>Compared with your colleagues, how do you evaluate your abilities in the following domains?                                                                                                               | Seven-item, seven-point scale (anchored at “much worse” and “much better”), adapted from the original four-item scale (Miao and Evans, 2007), based on (Behrman and Perreault, 1982) |
|                                                    | Ability to develop long-term relationships with customers<br>Ability to gain multiple points of entry in customer organizations (=procurement, technicians, operations, R&D and senior management)<br>Technical knowledge of own products/services<br>Knowledge about strengths/weaknesses and prices of competitive offers<br>Active listening to understand the real concerns of customers<br>Ability to solve customer problems effectively<br>Ability to demonstrate to customers ways to continuously the improve own operations |                                                                                                                                                                                      |
| <i>Resistance to<br/>change</i>                    | Do you agree with the following statements about change?<br><br>I generally consider changes to be a negative thing<br>I will take a routine day over a day full of unexpected events any time<br>I like to do the same old things rather than try new and different ones<br>Whenever my life forms a stable routine, I look for ways to change it.<br>(R)                                                                                                                                                                            | Five-item, seven-point scale (anchored at “strongly disagree” and “strongly agree”) short form (Inyang and Jaramillo, 2020; Oreg, 2003)                                              |
| <i>Competitive<br/>intelligence</i>                | I would rather be bored than surprised<br>How well do the following statements describe your activities related to competitive intelligence?                                                                                                                                                                                                                                                                                                                                                                                          | Three-item, seven-point scale (anchored at “not at all” and “very much”); (Mullins et al., 2020b), drawn from Rapp et al. (2011)                                                     |

(continued)

**Table A1.** Continued

| Measures                               | Items                                                                                                                                                                                                  | Sources                                                                  |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
|                                        | I try to gather and transmit reliable information about competitors<br>I always assign myself objectives to obtain information about competitors<br>I ask customers about our competition's strategies |                                                                          |
| <i>Price sensitivity of customers</i>  | How do you evaluate the price sensitivity of customers for the products/services that you sell?                                                                                                        | Seven-point scale (anchored at “very high” and “very low”)               |
| <i>Price value vs competitors</i>      | What is the relationship between price and value of the products/ services that you sell vis-à-vis competitive offers?                                                                                 | Seven-point scale (anchored at “much worse” and “much better”)           |
| <i>Emotional attachment to company</i> | I feel emotionally attached to my current company                                                                                                                                                      | Seven-point scale (anchored at “strongly disagree” and “strongly agree”) |

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