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ORIGINAL CONTRIBUTION

# The Role of Entrepreneurial Traits in Shaping Information Search Behaviors and SME Performance in Vietnam

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**Abstract**— Entrepreneurial traits are seen to be a crucial component of new venture survival. However, we only have a limited understanding of how individual entrepreneurs contribute to its emergence. Although it is sometimes asserted that curiosity plays a significant role in entrepreneurship, this notion is not well-supported by actual data. By investigating the connection between founders' entrepreneurial curiosity and corporate innovation, this study seeks to close this gap. We also investigate how this link is mediated by information search and moderated by competitive intelligence capability. By examining three waves of data gathered from 343 business owners, we discover that the curiosity, dynamism, and marketing of entrepreneurs are significantly correlated with their persistence and effort in finding information. Furthermore, our results demonstrate that information search effort mediates the influence of marketing, curiosity, and dynamism and that information search persistence mediates the effect of attributes on SME performance. Additionally, we discover that competitive intelligence capability moderates these connections.

**Index Terms—** Entrepreneurial curiosity, Entrepreneurial dynamism, Entrepreneurial marketing, Competitive intelligence Capability, Information search effort, Information search persistence, SME performance

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## Introduction

The stability and expansion of the economy depend on small and medium-sized businesses or SMEs. They act as stimulants for the development of new products, the advancement of technology, the creation of jobs, and the reduction of poverty (Adomako et al., 2024). Sahu and Panda (2024) state that SMEs make up more than 90% of all businesses and are responsible for half of the world's GDP. However, the COVID-19 pandemic has caused yet another shock that the world market has recently had to deal with. Due to globalization, technical innovation, and changes in consumer preferences, SMEs typically experience market disruptions. Through internal initiatives like cost-cutting, production optimization, and efficient management techniques, they adjust to these changes (Atkinson et al., 2022; Dejardin et al., 2023). However, the ongoing pandemic has brought about hitherto unheard-of difficulties that SMEs cannot manage, especially with curfews and limitations impacting consumer interactions and the supply of goods and services.

Although this line of research offers insightful information about how curiosity affects entrepreneurial success at the personal level, less is known about how curiosity among entrepreneurs affects outcomes at the corporate level (Peljko & Auer Antončič, 2022). Activated by contextual factors including novelty, ambiguity, or complexity, curiosity is the "want to know that motivates rewarding exploratory

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behavior to learn and fill pressing It has been demonstrated that filling in "knowledge gaps" Adomako et al. (2024) improves individual-level outcomes like engagement Dejardin et al. (2023), persistence Morrish and Jones (2020), inventiveness, and entrepreneurial alertness and intentions (Martinez-Calderon et al., 2020). Because of its emphasis on innovation and inexpensive implementation costs, the entrepreneurial marketing approach has consistently outperformed TM in SME literature. According to Alqahtani and Uslay (2020), entrepreneurial marketing describes a company's marketing procedures for identifying and seizing market opportunities. Since then, entrepreneurial marketing's critical role in improving SME performance has been the subject of multiple research (Fink et al., 2020; Kasasbeh et al., 2021; Pradja et al., 2024). Entrepreneurs' intense curiosity drives them to look for relevant and accurate information in order to develop intelligence capabilities. The literature on entrepreneurship emphasizes creative business models that emerge from seizing environmental opportunities (Rezvani & Fathollahzadeh, 2020; Sadiku-Dushi et al., 2019). Therefore, entrepreneurs' inquisitive attitude drives the search for and exploitation of these possibilities, which is anticipated to lead to SME performance.

However, how much does an entrepreneur's curiosity affect both kinds of information searches? Using a sample of startup technology companies, we investigate the connection between founders' entrepreneurial curiosity, information search effort, and resistance.

Additionally, and perhaps more significantly, we look at the mechanisms that, in theory, ought to support this association. Information search is a crucial behavior to start addressing an entrepreneur's curiosity, which is defined as their desire to identify knowledge gaps and concepts that are inconsistent with each market (Alqahtani & Uslay, 2020; Morrish & Jones, 2020). Information search effort and information search persistence are more precise and quantifiable strategies for information search (Hussain et al., 2020). Furthermore, it is essential to conduct frequent information searches from the market environment and other sources to stay up to date with the shifting market trends in order to establish a solid inventive foundation that will support the venture's success. This will stimulate creative thinking related to the expansion and survival of businesses (Fink et al., 2020). As a result, entrepreneurs' curiosity guides their knowledge search, which should help them develop new ideas. However, research in the literature on entrepreneurial actions and traits has not focused on this.

Peljko and Auer Antončič (2022) investigated how the association between information search and entrepreneurial qualities is mediated by these two mechanisms. Last but not least, it's critical to comprehend the environmental factors that affect a founder's entrepreneurial curiosity in addition to individual and firm-level viewpoints. Environmental dynamics affect SME performance as well as behaviors and activities related to information search. Furthermore, the literature has overlooked our comprehension of entrepreneurs' curiosity and how it influences their well-informed search for SME performance. Thus, we additionally investigate how this connection is moderated by competitive intelligence capability (Demartini & Beretta, 2020). Over the past few decades, the field of competitive intelligence capability has grown to be an essential component of businesses (Atkinson et al., 2022). Competitive intelligence capability is a business tool used in strategic management that is becoming more and more important as a process that helps companies achieve long-term competitive advantage (Hassani & Mosconi, 2022). Businesses must withstand competitive challenges from suppliers and new services in a worldwide market, which can create a more tumultuous and unstable environment (Kasasbeh et al., 2021; Wu et al., 2023).

Our research adds to the body of literature in a number of ways. First, we contribute to the expanding body of research that examines the connection between the traits of entrepreneurs, their business ventures, and company results (Sahu & Panda, 2024; Schiprowski et al., 2024). Furthermore, our findings highlight the significance of entrepreneurial curiosity in two types of information search. By extrapolating our results, we highlight the significance of comprehending entrepreneurial curiosity and its impact on firm-level results. Additionally, we contribute to the literature on information searches by demonstrating the significance of particular search parameters that are more important for various forms of innovation from a marketing, curiosity, and dynamism standpoint. Our results also shed light on competitive intelligence skills, which have a better correlation with SME performance, marketing, dynamism, curiosity, and information search. Practically speaking, executives can learn from our research how to transform their curiosity, dynamism, and marketing into successful SME outcomes.

## Theoretical background and hypothesis

### Entrepreneurial curiosity

One of the primary driving forces behind human behavior, according to Arikan et al. (2020), is curiosity, which is described as "the recognition, pursuit, and intense desire to explore novel, challenging, and uncertain events" (Lemasney et al., 2020). Therefore, it's feasible that certain people may benefit more from entrepreneurial passion due to their great drive to learn more and ask questions. According to Oradini et al. (2024), curiosity is an individual difference that can motivate people to concentrate on their objectives and to gather and combine general and domain-related information. Prior studies have emphasized how the traits of entrepreneurs impact venture activities and results, including firm innovation (Adomako et al., 2024; Peljko & Auer Antončič, 2022; Syed et al., 2020). Nonetheless, the entrepreneurship literature has paid little attention to curiosity, a quality that influences creativity and inventive behavior. A "desire to know" is evoked by curiosity, which motivates people to investigate and learn new things in order to fill up knowledge gaps (Lemasney et

al., 2020). According to Arikan et al. (2020), curious people are proactive and self-motivated, which increases their desire to learn and ask questions and their perseverance and effort to gain the knowledge they need. Syed et al. (2020) contend that entrepreneurial curiosity is a unique kind of curiosity that is particularly connected to entrepreneurial endeavors like creating new goods, identifying untapped markets, investigating novel approaches to structuring important activities, and performing market research.

### Entrepreneurial dynamism

Scholars of entrepreneurship are becoming more interested in the ways that regionally specific cultural, demographic, economic, political, and social factors, which are mostly out of an individual agent's control, affect entrepreneurial activity (Johnson et al., 2019). Recently, these phenomena have been referred to as external enablers; nonetheless, both current and potential entrepreneurs are reliant on their operating environment, meaning that changes in that environment will affect their behavior (Lopes et al., 2021). Although a variety of environmental changes can lead to entrepreneurial dynamism or the establishment and demise of enterprises, investments in the building of physical infrastructure have gotten relatively little scholarly attention. Entrepreneurs successfully reallocate labor and capital resources from less productive to more productive applications through the market mechanism of dynamism (Dejardin et al., 2023; Hassani & Mosconi, 2022). In capitalistic economies, it is an inherent characteristic of the entrepreneurial ecosystem that acts as a stand-in for adaptability, or the capacity of an economy to successfully handle exogenous change in a global economy that is becoming more and more competitive (Wu et al., 2023). According to Julien (2019), the fundamental aspect of capitalism is the process of creative destruction, which reallocates resources to their most valuable use. In other words, dynamic markets are marked by significant business and job creation and elimination Lopes et al. (2021) as "new entrants disrupt incumbents, workers are better matched with firms, and more productive firms drive out less productive ones Dejardin et al. (2023); Hassani and Mosconi (2022)," encouraging the improvements in productivity and innovation required to maintain economic growth and create new jobs in the marketplace.

### Entrepreneurial marketing

Different perspectives and definitions of the EM idea have emerged as a result of the potential that entrepreneurial marketing has offered for the development of multiple research streams. Studies investigating SME marketing revealed one main line of inquiry. Finding a different marketing strategy that could be used by small businesses was necessary because they are not miniature versions of huge corporations (Sadiku-Dushi et al., 2019). This line of research has added to the context of entrepreneurial marketing by proposing that small and medium-sized businesses may not benefit completely from the typical marketing strategies discussed in the literature (Alqahtani & Uslay, 2020; Kasasbeh et al., 2021). The behavior of the entrepreneur is the subject of another area of study in entrepreneurial marketing (Adel et al., 2020). This stream has determined that the EM is a more promising option for explaining how small businesses with limited resources market themselves but are motivated by entrepreneurial activities. Since then, the focus of research has shifted from small to large businesses (Amjad et al., 2020). Research indicates that any kind of business, regardless of size, can benefit from entrepreneurial marketing (Fink et al., 2020; Morrish & Jones, 2020). The emergence of several EM research streams has led to numerous attempts by various researchers to define the term. Consequently, there are a variety of definitions, including those that specifically mention marketing in small businesses Rezvani and Fathollahzadeh (2020), those that do not differentiate between companies based on age or size Crick et al. (2021); Guerola-Navarro et al. (2024), and those that highlight EM's value creation Kasasbeh et al. (2021); Polas and Raju (2021) and innovativeness (Pradja et al., 2024; Sahu & Panda, 2024). Nonetheless, there is a commonality among all EM definitions: they incorporate aspects of the fields of entrepreneurship and marketing. Based on these findings, we offer our conceptual model (Fig. 1) that illustrates the connection between information search, entrepreneurial qualities, and the moderating function of competitive intelligence capabilities.

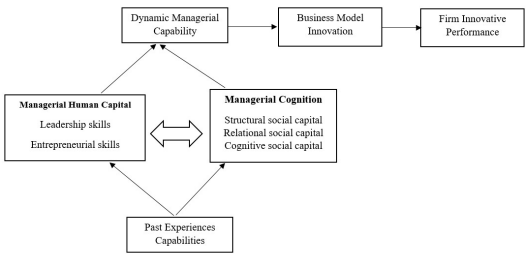


Fig. 1 *Entrepreneurial traits with SME performance, mediation-moderation analysis*

**Entrepreneurial traits and information search**

According to this, entrepreneurial curiosity entails a strong desire to learn and investigate different facets of creating new concepts as well as to use double-loop learning to enhance current business systems (Crick et al., 2021; Syed et al., 2020). This could entail looking for new data and knowledge, conducting experiments, posing queries, and getting feedback (Alqahtani & Uslay, 2020). Curiosity drives people to put in deliberate effort until they learn the information they need, which enables them to spot fresh chances and ways to enhance current procedures and goods. According to Fink et al. (2020) and Lemasney et al. (2020), entrepreneurial curiosity can lead to a quest for information that is either general in order to generate new concepts or explicitly tied to a deeper comprehension of a certain technology or procedure. Since creativity and curiosity are closely linked (Johnson et al., 2019), curiosity can facilitate special knowledge connections that lead to innovative product concepts and fresh approaches to business system organization. A new marketing paradigm is required, according to marketing scholars who have questioned the suitability of traditional marketing (Dejardin et al., 2023; Hassani & Mosconi, 2022; Wu et al., 2023). Several empirical investigations demonstrate that not all marketing practices are covered by the ideas of traditional marketing (Kasasbeh et al., 2021; Lopes et al., 2021; Meekaewkunchorn et al., 2021). Chege and Wang (2020) provide an example of this since they discovered that service companies carry out a variety of tasks that are not addressed by the conventional marketing mix theory. These actions have to do with building a reputation through word-of-mouth, recommendations, goodwill, and the development of enduring human relationships.

Fink et al. (2020) discovered that both customer orientation and customer interactivity are absent from the conventional marketing mix paradigm. The current business climate has grown extremely difficult, particularly for small and medium-sized businesses, which is another factor that has created a demand for a new marketing paradigm. There is more danger, uncertainty, turmoil, change, and contradiction in this competitive climate. In a global economy where consumers are growing pickier, these traits are significantly influencing marketing (Guerola-Navarro et al., 2024; Polas & Raju, 2021). The demise of established businesses that fail to adjust to the evolving marketplace by moving their operations or pursuing other advantageous opportunity preservation measures can result from spending on infrastructure in one area that enables creative possibilities at the expense of previously untapped entrepreneurial opportunities in an unrelated area. Numerous scholars have made conceptual and empirical contributions to this field over time (Crick et al., 2021; Morrish & Jones, 2020; Rezvani & Fathollahzadeh, 2020). Nonetheless, the EM area has frequently come under fire for missing empirical advancement, which leaves it without clear evidence (Kasasbeh et al., 2021). It offers a chance to evaluate Pradja et al. (2024) and investigate its applicability, given the current epidemic. However, a thorough discussion of the results of earlier research is necessary prior to the analysis.

Demartini and Beretta (2020) state that the curiosity of entrepreneurs improves information search and results in performance. However, it's crucial to remember that SME performance affects how founders' curiosity affects their tenacity and effort in finding information. In order to stay ahead of the competition and spot emerging trends and technologies, an inquisitive founder is more likely to keep looking for the data needed to create a novel product, even when faced with obstacles or disappointments. In a similar vein, changing environments may make performance more complex Wu et al. (2023), which in turn makes information search efforts more crucial. Finding possible areas for process innovation could be more challenging without making a major effort to collect data from multiple sources both inside and outside the company. The newly formed company may need to put in a lot of work to coordinate with several internal departments, like sales, marketing, and customer service, as well as external clients and partners, in order to obtain the data required for developing and putting into place new procedures or improving current ones in order to stay ahead of its rivals (Meekaewkunchorn et al., 2021; Qalati et al., 2021). In light of the arguments above, we propose that:

**H1:** Entrepreneurial curiosity has a direct impact on information search efforts.

**H2:** Entrepreneurial dynamism has a direct impact on information search efforts.

**H3:** Entrepreneurial marketing has a direct impact on information search efforts.

**H4:** Entrepreneurial curiosity has a direct impact on information search persistence.

**H5:** Entrepreneurial dynamism has a direct impact on information search persistence.

**H6:** Entrepreneurial marketing has a direct impact on information search persistence.

**Mediating role of information search between entrepreneurial traits and SME performance**

Unfortunately, inquisitive entrepreneurs look for information to solve issues, enhance their business processes, and discover new trends and technology. In fact, previous studies have shown a significant correlation between SME performance activities and CEOs' search intensity, which consists of two components: search effort and search persistence (Adomako et al., 2024; Peljko & Auer Antončič, 2022). According to Adomako et al. (2024) and Ranjan and Foropon (2021), search persistence is the tenacity with which a person continues their quest for information over an extended period of time, while search effort is the amount of time and resources that a person devotes to their information search. Researchers have noted that entrepreneurial traits have different needs, despite the literature's suggestion

that search effort and persistence are related to organizations' outcomes. This suggests that in order to comprehend interconnected actions that have a substantial impact on the organization and beyond, more time and resources could be required (Chen & Lin, 2021). Coordination across functional activities and cooperation with external partners will be necessary to comprehend these intricate and systemic challenges, requiring a greater level of search effort to obtain a more thorough understanding of the underlying elements. More inquisitive founders are more likely to devote the time and money needed to learn the facts and skills needed to understand intricate and systemic problems, which could improve SME performance (Kiss et al., 2020).

On the other hand, studies and experiments are used to cultivate entrepreneurial qualities. The new invention is unpredictable, even though it might not require extensive organizational coordination (Pradja et al., 2024). Significant risk and failure-prone experimentation are characteristics of entrepreneurs (Meekaewkunchorn et al., 2021). An ongoing search for information may result from curious founders' propensity to learn from mistakes Sadiku-Dushi et al. (2019) and inspire themselves to comprehend the root causes of failure (Rezvani & Fathollahzadeh, 2020). We believe that a company's performance will be enhanced by the entrepreneurial curiosity of its founders since they are actively participating in the research and development phase of new goods in new enterprises (Guerola-Navarro et al., 2024). Curious founders can overcome obstacles and resolve uncertainty to create ground-breaking goods by being eager to learn, try new things, and keep looking for information even in the face of setbacks or failures. Many fields have recently begun to pay more attention to EM research (Kasasbeh et al., 2021). Because the concept's foundations were less clear than those of TM, it was first not accepted as a marketing strategy. In addition, the discipline of entrepreneurship itself came under fire for concentrating mostly on profitable businesses. Sahu and Panda (2024) claim that because of the importance of their visionary role, entrepreneurs' effect is more noticeable in SMEs. However, the impact of entrepreneurial decision-making is diminished in large organizations because decision-making usually involves a group of experts or multiple levels of management. When it comes to marketing strategies, big businesses with lots of resources that view their clients as the center of attention frequently employ TM (Polas & Raju, 2021). However, SMEs that are aggressively and unconventionally driven by individuals use EM, which prioritizes innovation and adheres to both customer- and entrepreneurial-oriented approaches (Arikan et al., 2020; Fink et al., 2020).

The rapidity of change and unpredictability in a company's external environment, including shifts in technology, consumer tastes, and market demand, are characteristics of environmental dynamism (Forsman & Kivelä, 2022). Such dynamism creates uncertainty, which makes it harder for businesses to make decisions. Businesses may need to increase their information-gathering efforts and perseverance in obtaining knowledge about their external environment, including potential risks and opportunities, in order to battle this uncertainty and make wise decisions (Wu et al., 2020). In fact, studies indicate that businesses that operate in more dynamic contexts typically do more frequent and intensive information searches in order to stay abreast of the shifting terrain (Forsman & Kivelä, 2022; Schiprowski et al., 2024). Furthermore, studies indicate that the traits of the important decision-makers might affect the strategic choices and results of businesses in a dynamic setting (Julien, 2019). For example, (Lopes et al., 2021) discovered that companies with CEOs who have a strong focus on the present and the future but a low focus on the past tend to launch new products more frequently in dynamic situations. Because failing to innovate could lead to a decline in performance, businesses functioning in dynamic contexts might require more information to find and seize new chances for innovation (Bennett, 2019; Dejardin et al., 2023; Wu et al., 2023). As businesses investigate to acquire as much information as they can to lower uncertainty and spot opportunities for innovation, the uncertainty that comes with dynamic environments may also make information search persistence more crucial (Hassani & Mosconi, 2022). In light of the arguments above, we propose that:

**H7:** Information search effort has a mediating impact between entrepreneurial curiosity and SME performance.

**H8:** Information search effort has a mediating impact between entrepreneurial dynamism and SME performance.

**H9:** Information search effort has a mediating impact between entrepreneurial marketing and SME performance.

**H10:** Information search persistence has a mediating impact between entrepreneurial curiosity and SME performance.

**H11:** Information search persistence has a mediating impact between entrepreneurial dynamism and SME performance.

**H12:** Information search persistence has a mediating impact between entrepreneurial marketing and SME performance.

**Moderating role of competitive intelligence capability on information search and SME performance**

According to Asghari et al. (2020), businesses that consistently learn will be able to establish and maintain a competitive edge in the knowledge-based economy, while those that don't would fail and shut down. According to Cavallo et al. (2021), competitive intelligence capability is also quickly emerging as a key strategy for gaining a competitive edge. Researchers have noted that CIC has become more intense and crucial as a result of technological breakthroughs that have made the globe a global village (globalization). According to a survey of the literature, the word "corporate intelligence" (CI) is frequently used interchangeably with other related terms like "business intelligence" and "competitor intelligence," and its definition is quite nebulous. According to Kalra et al. (2021), there isn't a universally accepted definition of CIC among practitioners and theorists. However, the literature demonstrates that the process of obtaining an actionable understanding of the outside world of business is the most widely used definition of corporate intelligence capability. It also entails

managing the entire competitive conflict by converting outside data into decisions that allow business players to successfully compete and survive in challenging and unplanned business surroundings (Kasasbeh et al., 2021).

Ranjan and Foropon (2021) investigated how big businesses could use entrepreneurial marketing techniques to acquire and maintain a competitive edge. In order to demonstrate how entrepreneurial marketing procedures can be strategically used by large firms to create or discover, assess, and exploit entrepreneurial opportunities more effectively and efficiently, their study has applied prior research on entrepreneurial traits. They decided that the explanatory factors that led to this competitive advantage were risk management, proactivity, opportunity, innovation, customer intensity, value generation, and resource leveraging. Their research shed light on how big businesses use entrepreneurial marketing techniques to expand. Entrepreneurial marketing in organizations was examined in this research by Atkinson et al. (2022), Hassani and Mosconi (2022), and Pradja et al. (2024). These studies linked entrepreneurial marketing to one of the characteristics that may influence organizational competitive advantage. Wu et al. (2023) have carried out additional research to examine the impact of entrepreneurial marketing aspects on small and medium-sized businesses' competitive advantage. The results showed no discernible relationship between competitive advantage and proactiveness. Conversely, there is no meaningful correlation between competitive advantage and risk-taking. There is a statistically significant correlation between competitive advantage and innovativeness. There is no statistically significant correlation between customer intensity and competitive advantage, and the same is true for resource leveraging. Competitive advantage and value creation are significantly correlated (Cavallo et al., 2021).

Naturally, inquisitive entrepreneurs look for information to solve issues, enhance their business processes, and discover new trends and technology. In fact, other studies have found a favorable correlation between SME performance and CEOs' search intensity, which consists of search effort and search persistence (Atkinson et al., 2022; Ranjan & Foropon, 2021). This suggests that in order to comprehend interconnected actions that have a substantial impact on the organization and beyond, more time and resources could be required. Coordination across functional activities and cooperation with external partners will be necessary to comprehend these intricate and systemic challenges, requiring a greater level of search effort to obtain a more thorough understanding of the underlying elements. Businesses can use this capability to methodically collect, evaluate, and use competitive insights, which can have a big impact on strategic results and decision-making procedures (Wu et al., 2023). Strong competitive intelligence skills enable SMEs to concentrate their information search efforts on pertinent and high-quality data, improving performance in the process. Additionally, the moderating effect of competitive intelligence also promotes persistence in information search, which is characterized by consistent and committed efforts to get market and competitor insights. This capacity serves as a bridge to guarantee that the ongoing pursuit of knowledge is translated into workable plans that complement organizational objectives (Asghari et al., 2020; Cavallo et al., 2021). Competitive intelligence capabilities, then, not only make information search operations more efficient but also make the connection between these efforts and SMEs' overall performance stronger (Kasasbeh et al., 2021; Ranjan & Foropon, 2021). In light of the arguments above, we propose that:

**H13:** Competitive intelligence capability has a moderating impact on information search effort and SME performance.

**H14:** Competitive intelligence capability has a moderating impact on information search persistence and SME performance.

## Method

### Study setting in Vietnam

New technology ventures situated in two Vietnamese industrial parks served as the study's sample frame. By creating technology parks, Vietnam has been effective in fostering new technological endeavors. Furthermore, the DEEP C Industrial Park Complex and Yen Phong II Industrial Park have collaborated on the development of local high-tech businesses in Vietnam and their entrepreneurial characteristics (Anh, 2024). Vietnam has also taken a proactive stance in the development of cutting-edge technologies, thus solidifying its position as one of East Asia's technological superpowers. There were 68 new industrial park projects in Northern Vietnam as of 2024, increasing the total to 248 in this vital economic region. Well-known companies, including Samsung, LG Electronics, Vinfast, and others, have made approximately US$17.3 billion in investments in this area, accounting for 67 percent of all FDI capital in the nation.

### Sample and data collection

We conducted a poll with new business owners in two Vietnamese industrial parks from July to September 2024. Out of 5000 businesses, 405 new initiatives (those ten years of age or under) were selected as a sample. The questionnaire was created utilizing the conventional back-translation process in order to attain language equivalency (Hair et al., 2024). As a result, we created the survey in English. To ascertain the face validity, clarity, and applicability of the measures in the Vietnamese context, we subsequently conducted in-depth group interviews with 20 new enterprises (who were not included in the final sample) as an initial evaluation of the survey.

In order to determine whether the questionnaire items were ambiguous, we carried out a pilot research prior to the main survey. In 2024, the pilot survey ran from March to April. We conducted a convenience sampling survey with forty Vietnamese entrepreneurs who

were not included in the final study sample. Therefore, using exploratory factor analysis (EFA), we validated the entrepreneurial curiosity, dynamism, marketing, information search effort, and persistence scales. Entrepreneurial curiosity, dynamism, marketing, search effort, search persistence, competitive intelligence capability, and SME performance were the seven criteria we examined. 85% of the variation was explained by the eigenvalue, which was greater than one.

We distributed the questionnaire on-site for the primary survey. A skilled interviewer made an appointment, showed the key respondents the survey, and they decided on a time to pick up the filled-out forms. In accordance with guidelines for performing mediation studies, data were gathered in three waves, each with a four-week lag (MacKinnon et al., 2012). To lessen the possibility of frequent technique variance problems, the multi-wave survey was used in this investigation (Podsakoff et al., 2012). As a result, wave 1 (T1) acquired data on all independent, and wave 2 (T2) collected data on the mediating-moderating variable. Data on the dependent variable was gathered from wave 3 (T3) co-founders.

We distributed 870 surveys to business owners who had started their companies in the previous 10 years in wave 1, and 355 of them responded, or 40.80% of the total. The 355 entrepreneurs who finished the survey in T1 were contacted again three weeks later, in wave 2, to answer the questions on the mediating-moderating variable. To learn more about the product and process innovation frameworks, the founding partners of the 355 ventures were approached in wave 3 (T3). Four replies from enterprises without co-founders were eliminated. Furthermore, we removed 12 responses because they were not complete, leaving 343 complete answers (the final response rate was 39.42 percent of the total sample).

Nearly thirty percent of those participating in the final survey were full-time workers, the average age of the company was 6 years, 74% of the participants were men, the average age of the business owners was 32 years, and the average level of entrepreneurship was 1.00.

Of the ventures, 41.4% came from the technological sector (including electronic devices, telecommunications, and technology), while 58.6% came from other sectors (including biotechnology, medications, novel energy sources, and new substances).

We examined the age, number of workers, and gender of the early and late responders in order to gain insight at non-response bias. Consequently, we conducted a t-test study and discovered that there are no noteworthy distinctions between the two groups. Therefore, we may say that the findings of this study are unaffected by non-response bias (Hair et al., 2024).

### Measures

A 5-point Linkert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," was used to measure each of the multi-item constructions, unless otherwise indicated. To capture the constructs, we employed validated scales with proven validity and reliability.

Entrepreneurial Curiosity. We used eight of Adomako et al. (2024) items to gauge entrepreneurial curiosity. According to an exploratory factor analysis (EFA), these items scored highly on the construct of entrepreneurial curiosity. Later, confirmatory factor analysis (CFA) was used to validate this.

Entrepreneurial dynamism. Three elements from Johnson et al. (2019) helped us capture the perceived dynamic nature of the setting. The three measures assessed how managers felt about the workplace.

Entrepreneurial marketing. We used four items from Adel et al. (2020) to capture entrepreneurial marketing. The three items assessed how managers felt about the company. Information search effort. We used four elements per entrepreneur to quantify their information search effort (Adomako et al., 2024).

Information search persistence. We used four elements per entrepreneur to quantify their information search persistence (Adomako et al., 2024).

**Competitive Intelligence Capability.** Four elements from Ranjan and Foropon (2021) helped us capture the intelligence capability nature of the setting.

**SME Performance.** Three elements from Adel et al. (2020) helped us capture the nature of the setting's performance. The following codes were used to indicate education level: 1 for less than high school, 2 for high school, 3 for bachelor's, 4 for master's, and 5 for PhD. According to Wu et al. (2023), the industry type was measured as follows: 0 for the electronic information industry and 1 for no electronic information firms. Lastly, we used five perception metrics from Hassani and Mosconi (2022) to account for prior SME performance.

### Analysis

### Analytical procedure

Hair et al. (2024) estimated our model using partial least squares structural equation modeling (PLS-SEM) using the SmartPLS statistical software package 3.0. According to Hair et al. (2024), a sample size of at least 100 is required when utilizing PLS in SEM analysis. We

determine that our sample size of 249 responses is methodologically sufficient for our PLSSEM analysis. Particularly in moderated mediation analysis, the sample size of our study is comparable to that of other studies that have utilized PLS (Hair et al., 2024). In addition to its flexibility and variance-focused approach, PLS-SEM alleviates any annoyance associated with multivariate normal data analysis (Hair et al., 2024). We had to prove that the study complied with quality standards in order to evaluate our measures. First, the recommendation to look at reflecting lower-order constructs served as our guide (Hair et al., 2020). As a result, we carried out several analyses. These are average variance extracted (AVE) to maintain convergent validity and composite reliability (CR) to satisfy the requirements of the internal consistency of our variables (Hair et al., 2024). We also examined the Heterotrait-Monotrait ratio of correlations (HTMT) in order to verify the requirements for discriminant validity (Henseler et al., 2015).

**Potential biases, validity, and reliability tests**

According to Table 1 findings, composite reliability (CR) values exceeded the 0.70 threshold value that was recommended. Additionally, Table 1 demonstrates that the average variance extracted (AVE) is higher than the 0.50 benchmark that is suggested by Hair et al. (2024) in order to prove the measurement model's convergent validity (Fornell & Larcker, 1981). Because the HTMT values of the reflective lower-order constructs are in agreement with those of other reflective constructs, we also demonstrated discriminant validity in our data (Hairs et al., 2019). Henseler et al. (2015) established a liberal threshold of 0.95 and a moderate benchmark of 0.85 for HTMT inference. All seven of the variables in our investigation, including the higher-order formative construct (HOC), fell inside the HTMT inference benchmark and over the conservative threshold. Accordingly, our measures met the requirements for discriminant validity, indicating the validity of our study's measurement model (Henseler et al., 2015).

Furthermore, we employed a number of statistical and procedural techniques to lessen the impact of common method bias. In order to prevent any confusion, the responses to the survey were all systematically written using brief, straightforward sentences (MacKinnon et al., 2012; Podsakoff et al., 2012). In order to provide the chance to make revisions and subsequently enhance the validity of the final survey, we also piloted the questionnaire. Additionally, in accordance with guidelines for conducting mediation studies, we gathered the data in three waves separated by four weeks (Henseler et al., 2015).

Furthermore, in accordance with accepted practice, we measured the independent, mediating, and moderating variables prior to the dependent variables (Henseler et al., 2015; MacKinnon et al., 2012). Furthermore, our study's incorporation of moderating and mediating variables inhibits the capacity of participants to logically imagine potential connections between the ideas being investigated. We investigated the existence of common technique bias statistically using a number of methods. To determine whether a single component would stand out from the factor analysis, we performed a Harman single-factor test as suggested by Hair et al. (2024). We discovered that the first components explained 37.72% of the covariance justification, and five factors with eigenvalue > 1 emerged, accounting for 49.92% of the total variance.

Table I
Constructs, Validity, and Reliability.

| Constructs | Items | Mean | S.D | OL | VIF |
|---|---|---|---|---|---|
| EC | Entrepreneurial curiosity based on Adomako et al. (2024). $\alpha$ = 0.913; *CR* = 0.930; *AVE* = 0.623 | | | | |
| EC1 | When I have some free time, I spend it researching new markets. | 4.534 | 1.076 | 0.804 | 2.397 |
| EC2 | I simply must know how a certain business system works. | 4.923 | 1.161 | 0.804 | 2.541 |
| EC3 | I am able to create added value from my observations of the environment. | 4.765 | 1.059 | 0.759 | 2.008 |
| EC4 | I continuously delve into entrepreneurship matters. | 4.548 | 1.021 | 0.792 | 2.376 |
| EC5 | I spend most of my time thinking about company improvements. | 4.874 | 1.102 | 0.798 | 2.664 |
| EC6 | In entrepreneurial work, I am mostly interested in competition. | 4.441 | 1.009 | 0.815 | 2.805 |
| EC7 | I am interested in other entrepreneurs' interests. | 4.581 | 1.015 | 0.823 | 2.674 |
| EC8 | I explore new things that could create additional profit. | 4.943 | 1.126 | 0.713 | 1.757 |
| ED | Entrepreneurial dynamism based on Johnson et al. (2019). $\alpha$ = 0.707; *CR* = 0.833; *AVE* = 0.624 | | | | |
| ED1 | Competitors are constantly trying out new competitive strategies | 3.441 | 1.109 | 0.824 | 1.275 |
| ED2 | New markets are emerging for products and services in our industry | 2.581 | 1.115 | 0.780 | 1.461 |
| ED3 | Customer needs and demands are changing rapidly in our industry | 4.761 | 1.216 | 0.764 | 1.490 |

Constructs, Validity, and Reliability

| Constructs | Items | Mean | S.D | OL | VIF |
|---|---|---|---|---|---|
| EM | Entrepreneurial marketing based on Adel et al. (2020). α = 0.868; CR = 0.911; AVE = 0.720 | | | | |
| EM1 | Entrepreneurial orientation | 4.441 | 1.014 | 0.803 | 1.987 |
| EM2 | Market driving | 3.581 | 1.072 | 0.902 | 3.732 |
| EM3 | Customer Orientation | 5.761 | 1.026 | 0.910 | 3.646 |
| EM4 | Resource leveraging | 4.441 | 1.111 | 0.771 | 1.708 |
| ISE | Information search effort based on Adomako et al. (2024). α = 0.872; CR = 0.913; AVE = 0.725 | | | | |
| ISE1 | I invest a great deal of personal effort into gathering potentially valuable information | 4.152 | 1.164 | 0.859 | 2.448 |
| ISE2 | I would go out of my way to find information sources that may have relevant information | 5.876 | 1.152 | 0.861 | 2.280 |
| ISE3 | I would make looking for new information a top priority for how I would spend my time | 5.143 | 1.232 | 0.898 | 2.774 |
| ISE4 | I devote a large percentage of my time to searching for information | 4.976 | 1.109 | 0.783 | 1.777 |
| ISP | Information search persistence based on Adomako et al. (2024). α = 0.789; CR = 0.864; AVE = 0.615 | | | | |
| ISP1 | When searching for information, I would exhaustively search and study every possibility | 4.142 | 1.119 | 0.822 | 1.854 |
| ISP2 | When searching for information, I would continue searching until I was satisfied that I had identified all relevant information | 3.642 | 1.431 | 0.792 | 1.534 |
| ISP3 | When searching for information, I would take as much time as needed to identify all available information | 2.122 | 1.176 | 0.777 | 1.806 |
| ISP4 | When searching for information, I would persist until I found all the information pertaining to this problem | 3.986 | 1.234 | 0.837 | 1.863 |
| CIC | Competitive Intelligence Capability based on Ranjan and Foropon (2021). α = 0.829; CR = 0.886; AVE = 0.661 | | | | |
| CIC1 | The organization has identified competitive intelligence as an essential activity for the business. | 4.675 | 1.081 | 0.813 | 1.718 |
| CIC2 | Competitive intelligence can create a competitive advantage. | 4.617 | 1.099 | 0.762 | 1.603 |
| CIC3 | Senior executives use the results of competitive intelligence in their strategic planning and decision-making | 4.987 | 1.154 | 0.838 | 2.253 |
| CIC4 | In this organization, competitive intelligence training is available to all employees. | 4.143 | 1.124 | 0.836 | 2.292 |
| SMEP | SME Performance based on Adel et al. (2020). α = 0.848; CR = 0.906; AVE = 0.763 | | | | |
| SMEP1 | In the last two years, we achieved a higher revenue growth than our (direct/indirect) competitors | 3.154 | 1.108 | 0.860 | 2.172 |
| SMEP2 | In the last two years, we achieved a higher profit growth than our (direct/ indirect) competitors | 2.617 | 1.089 | 0.896 | 1.902 |
| SMEP3 | In the last two years, we achieved a higher market share growth than our (direct/indirect) competitors | 4.131 | 1.147 | 0.863 | 2.128 |

The extent to which items distinguish between constructs or measure different concepts is known as the measures' discriminative validity (Fornell & Larcker, 1981). Using analysis of the average variance (AVE), which was retrieved using the criterion that "a construct should share more variances with its measures than it shares with other constructs in the model," the current study evaluated the discriminatory validity. By contrasting the AVE construct with oneself and others, this can be evaluated. When the value of sharing with other constructions is less than the value of sharing with oneself, it is seen a justified separation of constructs.

Table II
Descriptive Statistics and Correlation

| | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| CIC | 4.18 | 1.14 | 0.813 | | | | | | |
| EC | 4.56 | 1.09 | 0.559 | 0.789 | | | | | |
| ED | 5.28 | 1.99 | 0.732 | 0.503 | 0.790 | | | | |
| EM | 4.75 | 1.76 | 0.632 | 0.700 | 0.622 | 0.848 | | | |
| ISE | 4.32 | 1.54 | 0.605 | 0.670 | 0.618 | 0.783 | 0.851 | | |
| ISP | 4.92 | 1.65 | 0.603 | 0.481 | 0.591 | 0.555 | 0.558 | 0.784 | |
| SMEP | 4.09 | 1.99 | 0.608 | 0.675 | 0.531 | 0.717 | 0.909 | 0.553 | 0.873 |

Note= "CIC= competitive intelligence capability, EC= entrepreneurial curiosity, ED= entrepreneurial dynamism, EM= entrepreneurial marketing, ISE= information search effort, ISP= information search persistence, SMEP= Small medium enterprise performance"

Structural model Measurement: Quality of the theoretical model We evaluated each endogenous construct's $R^2$ value before populating our model (Table 3). 64% of the variation in information search effort, 44% in information search persistence, and 30% in SME performance can be explained by our model. When compared to other recent investigations, these results are sufficient. Story, MacKinnon et al. (2012), for instance, presented the following results: $R^2$ values ranged from 0.18 to 0.40, whereas Podsakoff et al. (2012) had 0.15 and Henseler et al. (2015) had 0.115. A maximum threshold value of 0.2 has been established by prior research (Hair et al., 2024). Table 3 results indicate that all constructs are above the necessary threshold, but not above the medium level, which may be because of the moderated mediation effect. Next, we looked at the predictive significance of the PLS path model, so we used the preventing procedural technique with a neglect distance of 7 to obtain predictive relevance on all endogenous constructs. Standardised root mean square (SRMR) is regarded as the most trustworthy model fit index when examining model fit index in PLS-SEM analysis (Hair et al., 2024). However, according to Hair et al. (2024), the goodness-of-fit index (GoF) is unable to differentiate between legitimate and invalid models. As suggested by Henseler et al. (2015) and previous research (e.g., Kawai & Chung, 2019), we used SRMR to calculate our model fit index in comparison to GoF. Our model's fit SRMR value was 0.083 (Model), falling under the acceptable value threshold of less than 0.09 and hence appropriate for our data (Henseler et al., 2015).

Table III
Results of the structural model testing

| Path Coefficients | Std Beta | *STD* | *T* | *P* | F2 | $R^2$ |
|---|---|---|---|---|---|---|
| EC -> ISE | -0.236 | 0.076 | 1.788 | 0.004 | 0.218 | 0.648 |
| EC -> ISP | -0.290 | 0.078 | 1.155 | 0.009 | 0.234 | 0.441 |
| ED -> ISE | 0.197 | 0.060 | 3.267 | 0.001 | 0.176 | |
| ED -> ISP | 0.410 | 0.062 | 6.619 | 0.000 | 0.147 | |
| EM -> ISE | 0.555 | 0.083 | 6.691 | 0.000 | 0.265 | |
| EM -> ISP | 0.233 | 0.091 | 2.556 | 0.011 | 0.117 | |
| Specific Indirect Effect of Mediation (Information Search) | | | | | | |
| EC -> ISE -> SMEP | -0.119 | 0.070 | 1.701 | 0.009 | | 0.306 |
| EC -> ISP -> SMEP | 0.185 | 0.084 | 2.001 | 0.019 | | |
| ED -> ISE -> SMEP | 0.173 | 0.055 | 3.143 | 0.002 | | |
| ED -> ISP -> SMEP | 0.198 | 0.045 | 5.041 | 0.012 | | |
| EM -> ISP -> SMEP | 0.137 | 0.089 | 4.101 | 0.006 | | |
| EM -> ISE -> SMEP | 0.487 | 0.066 | 7.403 | 0.000 | | |
| Specific Indirect Effect of Moderation (Competitive Intelligence Capability) | | | | | | |
| ISE*CIC -> SMEP | -0.223 | 0.040 | 3.577 | 0.004 | 0.154 | |
| ISP*CIC -> SMEP | -0.115 | 0.072 | 2.472 | 0.007 | 0.444 | |

Note= "CIC= competitive intelligence capability, EC= entrepreneurial curiosity, ED= entrepreneurial dynamism, EM= entrepreneurial marketing, ISE= information search effort, ISP= information search persistence, SMEP= Small medium enterprise performance"

## Results

The study's results are shown in Table 3. Information search effort ($\beta$ = -0.236, $t$ = 1.788, $P$ = 0.004) is negatively impacted by entrepreneurial curiosity, with adequate effect size (f2 = 0.218) and predictive relevance ($Q^2$ = 0.175). Information search persistence ($\beta$ = -0.290, $t$ = 1.155, $P$ = 0.009) are is negatively impacted by entrepreneurial curiosity, with adequate effect size (f2 = 0.234) and predictive relevance ($Q^2$ = 0.165). The results lend credence to H1a and H1b. Entrepreneurial dynamism has significant and positively impacted on information search effort ($\beta$ = 0.197, $t$ = 3.267, $P$ = 0.001), with adequate effect size (f2 = 0.176) and predictive relevance ($Q^2$ = 0.117). Entrepreneurial dynamism has significant and positively impacted on information search persistence ($\beta$ = 0.410, $t$ = 6.619, $P$ = 0.000), with adequate effect size (f2 = 0.147) and predictive relevance ($Q^2$ = 0.123). The results support H3 and H4. Entrepreneurial marketing has significant and positively impacted on information search effort ($\beta$ = 0.555, $t$ = 6.691,$P$ = 0.000), with adequate effect size (f2 = 0.265) and predictive relevance ($Q^2$ = 0.189). Entrepreneurial marketing has significant and positively impacted on information search persistence ($\beta$ = 0.233, $t$ = 2.556, $P$ = 0.011), with adequate effect size (f2 = 0.117) and predictive relevance ($Q^2$ = 0.101). The results support H5 and H6.

We claimed that the impact of marketing, dynamism, and entrepreneurial curiosity on SME performance would be mediated by information search efforts. Stated further that the impact of marketing and entrepreneurial curiosity dynamism on SME performance would be mediated by persistence in information seeking. Model (Table 3) was used to test the mediation hypotheses. Results of indirect effect show that information search efforts as mediating impact between entrepreneurial curiosity and SME performance H7 ($\beta$ =- 0.119, $t$ =

1.701, *P* = 0.009), H8 information search persistence ($\beta$ = 0.185, *t* = 2.001, P = 0.019). Also, results of indirect effect show that information search efforts as mediating impact between entrepreneurial dynamism and SME performance H9 ($\beta$ =0.173, *t* = 3.143, P = 0.002), H10 information search persistence ($\beta$= 0.198, *t* = 5.041, *P* = 0.012). Furthermore, results of indirect effect show that information search efforts as mediating impact between entrepreneurial marketing and SME performance H11 ($\beta$ =0.137, *t* = 4.101, *P* = 0.002), H12 information search persistence ($\beta$ = 0.487, *t* = 7.403, *P* = 0.000). Finally, we tested moderation hypothesis (H13 and H14) which argued competitive intelligence capability moderates the significant and negative impact on information search effort and SME performance ($\beta$ =-0.223, *t* = 3.577, *P* = 0.004) and information search persistence ($\beta$ =-0.115, *t* = 2.472, *P* = 0.007).

In order to confirm the direction of the interaction effect, we also used standard techniques. As a result, we created straightforward slope graphs at one standard deviation above and below the competitive intelligence capability mean deviation. Figure 2 demonstrates that, when competitive intelligence capability is high, information search effort is more strongly linked to entrepreneurial traits than when competitive intelligence capability is low. Furthermore, Fig. 3 demonstrates that under high competitive intelligence capability, entrepreneurial attributes are more strongly associated with perseverance in information seeking than under low competitive intelligence capability. Therefore, we came to the conclusion that through information search persistence, competitive intelligence capability enhances the beneficial impact of entrepreneurial traits. The findings further imply that the predictive relevance of performance was enhanced by the mediation role of information search in the association between entrepreneurial qualities and SME performance. The following $R^2$ values are obtained from the results, information search effort= 0.648, information search persistence= 0.441 and small medium enterprise performance=0.306.

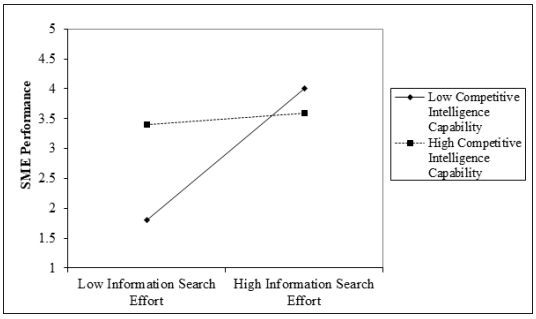


Fig. 2 *Moderating effect of competitive intelligence capability on the relationship on information search effort and SME performance.*

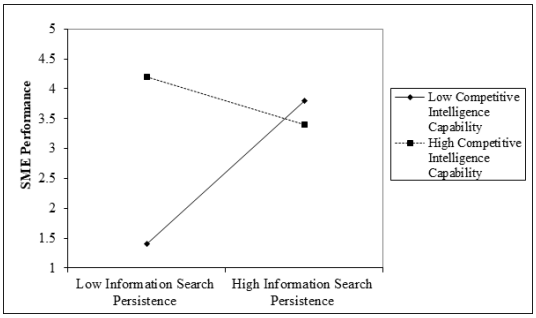


Fig. 3 *Moderating effect of competitive intelligence capability on the relationship on information search persistence and SME performance*

## Discussion and conclusion

Through the mediating process of information search, we investigated in this study how entrepreneurial curiosity, dynamism, and marketing contribute to new venture innovation. In line with earlier studies that emphasise the impact of individual-level factors on company competence (Oradini et al., 2024), the findings show that entrepreneurs' marketing, dynamism, and curiosity strongly mediate the association between persistence and information search effort. We also discovered that these correlations are moderated by competitive intelligence capability. In particular, compared to more stable relationships, both were stronger in highly competitive intelligence capability. All things considered, these results have theoretical and practical implications.

**Theoretical implications**

Several additions to the theory and literature of entrepreneurship are made by our study. First, our findings show that entrepreneurial curiosity is positively correlated with information search effort and persistence, which supports research that highlights the impact of entrepreneurs' traits on firms' performance (Alqahtani & Uslay, 2020; Dejardin et al., 2023; Rezvani & Fathollahzadeh, 2020). According to Chege and Wang (2020), SME performance depends on their entrepreneurial curiosity. However, as far as we are aware, there is little empirical data relating to the connection between SME performance and entrepreneurial curiosity. This is clarified by our research, which indicates that entrepreneurial curiosity is a powerful precondition for information seeking. Given that founders have a lot of power over new businesses, entrepreneurial curiosity might encourage persistence and knowledge seeking. This is in line with earlier research showing that a variety of entrepreneurial traits, including perseverance, receptivity to new ideas, and divergent thinking, are positively correlated with curiosity (Dejardin et al., 2023; Meekaewkunchorn et al., 2021; Qalati et al., 2021). This is also in line with earlier research that suggests curiosity and information search effort and persistence are positively correlated (Hussain et al., 2020; Rezvani & Fathollahzadeh, 2020). Concerned entrepreneurs are more inclined to research the most recent developments in a certain industry, and becoming knowledgeable about emerging technology may inspire the development of original goods.

Another emphasising the importance of particular elements that are relevant to different types of SME performance from a curiosity, dynamism, and marketing standpoint, our study adds to the continuing conversation on information search. Our results thus support earlier studies that highlight the significance of information search on SME performance (Hussain et al., 2020; Rezvani & Fathollahzadeh, 2020). Put differently, marketing and curiosity dynamism are essential because they promote learning and knowledge seeking (Meekaewkunchorn et al., 2021). Our results show that because curiosity, dynamism and marketing have different requirements, search effort and persistence have varied effects on SME performance. It would take more time and resources to understand curiosity because they are more complex and have a wider scope than dynamism and marketing (Sahu & Panda, 2024). Collaboration across operational operations and cooperation with external partners are necessary to comprehend these complex and systemic difficulties, necessitating a higher level of search effort to obtain a more thorough grasp of the underlying elements. Higher levels of curiosity among entrepreneurs increase the likelihood that they will devote the time and money needed to learn the facts and skills needed to understand intricate and systemic problems, which could improve SME performance. Curious entrepreneurs are more likely to persevere in their knowledge quest because they are more likely to learn from mistakes and comprehend their reasons (Alqahtani & Uslay, 2020; Meekaewkunchorn et al., 2021). Through a willingness to learn, try new things, and keep looking for information, entrepreneurial curiosity enables people to overcome obstacles and overcome ambiguity. We discover that information search persistence positively mediates the association between entrepreneurial curiosity, dynamism, marketing, and SME performance, which is in line with Adel et al. (2020) finding that information search persistence is favourably associated to the launch of new products. Additionally, our results show that the relationship between entrepreneurial curiosity, dynamism, marketing, and SME performance is favourably mediated by information search effort.

Lastly, examining the moderating effect of competitive intelligence competence to better understand complex organisational processes, our work adds to the body of literature on information search (Kiss et al., 2020). Our results imply that in order to maintain an advantage over competitors, a competitive intelligence skill requires perseverance and information search effort. In order to deal with uncertainty and find opportunities for SME performance, businesses operating in dynamic contexts need to do more thorough and frequent information searches (Adomako et al., 2024; Ranjan & Foropon, 2021). Because of the tensions and the speed at which new items are being launched to the market, changes in company capabilities are happening at an ever-increasing rate. Fast-thinking companies were able to transform their data into creative concepts to improve their business processes, stay competitive, and thrive. As a result, dynamic settings make it more crucial for businesses to be persistent and diligent in their information search efforts in order to reduce uncertainty and find opportunities for innovation. These observations respond to requests to look into organisational antecedents other than culture, context, and economic resources and how these affect search outcomes.

**Practical implications**

Our research has significant applications for business owners. According to our research, in order to keep their creative edge, entrepreneurs should maintain their curiosity throughout their business endeavors. More precisely, this interest ought to continue in search of fresh data regarding markets, rivals, and clients. This is consistent with the problem-solution and product-market validations pedagogical approaches of entrepreneurship (Fink et al., 2020). It is important to use the right information search techniques based on the kind of creativity being sought. Businesses that want to cut costs, boost productivity, or enhance quality must be prepared to put in time and money since process innovation takes a lot of work. To put it another way, entrepreneurs should give information search efforts top priority and allocate funds to support SME performance. Accordingly, companies that want to develop new products must be prepared to keep providing information even in the face of obstacles or setbacks. This is especially crucial in competitive intelligence capability where searching for information is essential to staying up to date with evolving client preferences and technological advancements. En-

trepreneurs are more likely to improve their companies' capability and maintain an advantage over rivals if they take environmental elements into consideration while making information search decisions. Furthermore, in order to prosper in this fiercely competitive environment, innovation will improve these information search and SME performance. These digital companies must thus stay up to date with new ideas through their search efforts and perseverance to bring out the necessary capabilities to grow their initiatives if they want to stay ahead of the competition.

**Limitations and future research**

Although our study offers valuable insights, there are a number of limitations that present chances for additional research. We divide them into three different but connected paths, which are methodology, settings, and concept. The entrepreneurship literature generally agrees that it is ineffective to try to comprehend entrepreneurship without the entrepreneur. This is a result of people using their creativity to come up with concepts for new goods and services in order to seize opportunities. Nonetheless, research on the human aspect of innovation management is still lacking (Bennett, 2019; Henseler et al., 2015). We may have highlighted how entrepreneurs carry out inventive endeavors in new ventures by looking into how these variables affect innovation. Future studies should therefore examine the possible contributions of these factors on the effort and persistence of information searching. Future studies investigated into how curiosity affects other facets of entrepreneurs' thought and behaviour. Future studies could, for instance, look at how marketing, dynamism, and curiosity affect the objectives that entrepreneurs establish for themselves and their new businesses. It is highly advised that academics look into its possible effects on these processes in the field of entrepreneurship in order to create a clearer picture of this relationship, as prior study has not given this linkage much attention.

The findings of our study might only apply to the empirical context of Vietnam. There are some distinctions among these large economic blocs, even if emerging market nations typically have similar institutional quirks, such as unstable institutional environments, to those in established economies. Because there are some differences among emerging economies, researchers and policymakers should exercise caution when extrapolating our findings to other settings. Future studies should therefore use samples of new initiatives from both developed and developing nations to test our research paradigm. For instance, a diverse sample of new businesses from both established and emerging countries may provide a more comprehensive comparison analysis given the well-known structural disparities between these two sectors. Furthermore, even if our study's Vietnam environment is a strength, we might have compared our findings with those of another nation, culture, or group because there isn't much research on entrepreneurial traits in this setting. Therefore, within-country, cultural, or group variance should be used to interpret our findings.

However, it is impossible to avoid conjecture regarding the moderating influence of competitive intelligence skill in relation to a contextual interpretation of our findings.

The collectivistic culture of Vietnam is characterised by interdependence, a desire for harmony, and an avoidance of confrontation. Therefore, we support further studies from other nations that enable researchers to get over this contextual constraint. We cannot completely eliminate out common method variance, even if our research design is strong at reducing exaggerated correlations that are frequently linked to cross-section data (Podsakoff et al., 2012). Therefore, in order to establish causal inferences, we recommend future research to use experimental methodologies or a longitudinal design. Furthermore, our participants ran new businesses in two Vietnamese industrial parks in spite of a strict design to gather a wide sample of entrepreneurs. Despite the regional distribution of these new businesses, it's probable that the sample wasn't entirely typical of business owners in other sectors. As a result, we support future studies that collect data in other regions. Additionally, according to creation theorists, curiosity rather than entrepreneurial alertness or an awareness of market imperfections is what ignites the development of opportunities.

**Conclusion**

Our study examines the connection between SME performance and the curiosity, dynamism, and marketing of individual entrepreneurs. The study, which used data from 343 new businesses in Vietnam and included numerous respondents, discovered a substantial relationship between entrepreneurs' tenacity and information search effort and their curiosity, dynamism, and marketing. The research also discovered that the impact of entrepreneurs' marketing, dynamism, and curiosity on SME success is mediated by information search effort, and that perseverance in information search mediates the impact of these factors on SME performance. The study also discovered that competitive intelligence capability moderated that. All things considered, the study offers empirical support for the idea that entrepreneurs' marketing, curiosity, and dynamism are linked to information search and emphasises how crucial it is to take capability aspects into account when analysing this relationship.

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