

# Decision-maker's overconfidence and international performance: the role of the adoption of intuitive practices

The adoption of intuitive practices

AQ: 4

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AQ: 1

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Received 26 October 2021  
Revised 22 December 2021  
Accepted 27 December 2021

## Abstract

**Purpose** – The paper analyses the influence of the decision-makers' overconfidence on the intuitive practices' adoption, as well as on the international performance during international strategic decision-making processes (SDMPs) of small- and medium-sized enterprises (SMEs). Moreover, the study investigates the possible mediating effect of intuition on the relationship between overconfidence and international performance.

**Design/methodology/approach** – A semi-structured questionnaire based on a sample of 160 SMEs and a regression analysis have been employed.

**Findings** – Results show a negative relationship between intuition and international performance and a positive one between overconfidence and international performance. Furthermore, a negative relation between overconfidence and intuition has been identified. Findings also highlight the mediating role of intuition in the relationship between overconfidence and international performance.

**Practical implications** – The paper provides valuable implications related to the analysis of overconfidence as a critical decision-maker's character and intuition as a feature of the decision-making methodology. Moreover, the study offers indications for SMEs facing complex strategic decisions.

**Originality/value** – The paper adopts an original perspective by combining the SDMP analysis with that of international strategy within the SMEs context. Additionally, the study enriches the existing literature by (1) investigating overconfidence in the decision-making; (2) enhancing the examination of overconfidence and intuitive practices in the international SDMP; (3) deepening the research field focused on the identification of the intuitive processes' predictors that is still in its infancy.

**Keywords** Strategic decision-making process, SMEs, Intuition, Overconfidence, International performance

**Paper type** Research paper

## 1. Introduction

AQ: 5 Research on strategic decision-making has exponentially increased in the last four decades (Shepherd and Rudd, 2014; Papadakis *et al.*, 2010; Elbanna, 2006; Mazzarol and Rebound, 2006), with the majority of studies focusing their attention on large firms (Driouchi and Bennett, 2011; Nielsen and Nielsen, 2011). Conversely, the analysis of the decision-making process within small- and medium-sized enterprises (SMEs), engaged in international/global strategies (Francioni *et al.*, 2015), represents a research topic little investigated by the extant



Journal of Small Business and  
Enterprise Development  
© Emerald Publishing Limited  
1462-6004  
DOI 10.1108/JSBED-10-2021-0429

literature (Petrou *et al.*, 2020; Ahi *et al.*, 2017; Dimitratos *et al.*, 2011; Mazzarol and Rebound, 2006). Furthermore, recent studies have also underlined the relevance of this topic from a practical perspective since ever more small business managers show a growing interest toward it (Elbanna *et al.*, 2020). Therefore, the analysis of SMEs' internationalization activities assumes a key relevance both from a theoretical and an empirical viewpoint (Petrou *et al.*, 2020).

Additionally, even if extant research highlights the key role played by individuals/decision-makers in SMEs (Elbanna *et al.*, 2020), this topic has been superficially investigated, with the individual manager rarely adopted as the unit of analysis (Niittymies, 2020).

Within this context, the study of the influence of the decision-makers' characteristics on the strategic decisions' formulations in the international context represents a research topic requiring great attention and in-depth investigation (Child and Hsieh, 2014; Felicio *et al.*, 2012). More in detail, the present study will focus its attention on overconfidence, since it represents one of the decision-makers' characteristics needing more attention for at least three reasons. First, because it assumes a leading role in the formation of the individuals' decisions, especially in environments with higher levels of complexity and uncertainty (Shipman and Mumford, 2011), just like the international context (Bauer and Ege, 2014). Second, because the recent literature has analyzed the prominence of cognitive biases and irrationalities in the decision-making process (Donohue *et al.*, 2020; Ancarani *et al.*, 2016) by especially underling the relevance of overconfidence in affecting a firm's performance (Kim and Na, 2021). Third, because there is a lack of studies focused on this specific decision-makers' feature (Dong *et al.*, 2021), especially in the international strategic decision-making process (SDMP).

Meanwhile, although several studies (Francioni *et al.*, 2015; Dimitratos *et al.*, 2011; Woiceshyn, 2009) have analyzed a set of dimensions characterizing the SDMP in general, such as rationality, formalization, hierarchical decentralization, intuition, lateral communication and political behavior, no specific attention has been dedicated to examining the adoption of intuitive practices in the international SDMP context.

Starting from these assumptions, the objective of the present study is threefold. First, it aims to examine the SDPM within international small businesses, thus trying to fill a research gap related to the analysis of this specific process in the SMEs context. Second, it aims to investigate the influence of the decision-makers' overconfidence on the adoption of intuitive practices, as well as on the international performance. Finally, it tests the possible mediating effect of intuition on the relationship between overconfidence and international performance.

Overall, by doing so, the paper will offer interesting theoretical and managerial contributions. Theoretically, it assumes an original perspective by combining the SDMP analysis with that of international strategy within the SMEs context. Moreover, the study enhances the existing research by (1) enriching the investigation of the overconfidence role in the decision-making (Ancarani *et al.*, 2016); (2) deepening the analysis of overconfidence and intuitive practices in the international SDMP; (3) testing overconfidence as a possible intuition's antecedent, thus contributing to fill a research gap related to the identification of the intuitive processes' predictors (Baldacchino *et al.*, 2015).

From a managerial perspective, the paper offers a worthwhile insight on (1) the overconfidence role as a key character of the decision-maker; (2) the intuition impact as a feature of the decision-making methodology; (3) valuable indications for SMEs facing complex strategic decisions; (4) the necessity to reach a balance between overconfidence and intuition; (5) the tasks' attribution to managers based on their personal features.

Structurally, the remainder of the paper is organized into the following sections: we start with the theoretical background and hypothesis development. The following sections deal with the methodology and results. Finally, we present our results' discussion along with implications and avenues for future research.

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## 2. Conceptual background

### 2.1 International strategic decisions

The prominent role played by SMEs in the economic growth of countries constitutes one of the main factors leading the recent literature to increasingly focus its attention on the SMEs' internationalization (Coudounaris, 2021; Dadzie *et al.*, 2021; Pauluzzo, 2021; Srivastava and Tyll, 2021; Ahimbisibwe *et al.*, 2020; Billore and Billore, 2020; Fernandes *et al.*, 2020; Karami *et al.*, 2020; Jin *et al.*, 2018; Jin and Jung, 2016; Francioni *et al.*, 2015; Child and Hsieh, 2014; Maldifassi and Caorsi, 2014; Kontinen and Ojala, 2010). Notably, in the international context, the SDMP represents one of the most relevant themes of strategy research analyzed by contemporary studies (Karami *et al.*, 2020; Child and Hsieh, 2014; Dimitratos *et al.*, 2011).

From a conceptual perspective, Elbanna (2006, p. 2) defined the SDMP as a process “by which a strategic decision is made and implemented”. According to Harrison (1996), the SDMP is composed by a series of specific functions logically connected, namely definition of managerial objectives; searching for alternatives; comparing and evaluating alternatives; the act of choice; implementing decisions; follow-up and control.

Although several studies have examined the SDMP with specific reference to either small firms (Gibcus *et al.*, 2009; Jocusen, 2004) or internationalization activities (Nielsen and Nielsen, 2011), during the last years some contributions (Petrou *et al.*, 2020; Francioni *et al.*, 2015, 2017; Dimitratos *et al.*, 2011; Dimitratos, 2010) have examined the SDMP in both perspectives. Notably, some of them (Francioni *et al.*, 2015, 2017) focused their attention on small businesses by adapting the sequence of decision-making functions to the international context and by examining some specific SDMP's phases, such as international market selection and entry mode selection processes.

Moreover, the latest studies (Elbanna *et al.*, 2020; Vershimina *et al.*, 2017; Knight and Liesch, 2016) stressed how SMEs are completely different from multinational enterprises (MNEs), especially in terms of SDMP. More in detail, SMEs are usually led by one or a few individuals (Elbanna *et al.*, 2020). Consequently, the examination of their characteristics is fundamental for understanding how they make decisions.

### 2.2 Intuition and international performance

Over the years, intuition has conquered the attention of a growing number of researchers (Manesh *et al.*, 2021; Marques *et al.*, 2021; Luoma and Martela, 2020; Hodgkinson and Sadler-Smith, 2018; Zacca *et al.*, 2017; Baldacchino *et al.*, 2015; Carlos Pinho and Sampaio de Sá, 2014; Child and Hsieh, 2014; Guercini, 2012; Blume and Covin, 2011; Elbanna and Naguib, 2009; Behling and Eckel, 1991; Bird, 1988).

In particular, it assumes a key role in SMEs (Giroux, 2009), where decision-makers “are likely to rely significantly on intuition informed by the opinions of network partners and connections” (Elbanna *et al.*, 2020, p. 1) or draw on “gut feeling” and past learning (Petrou *et al.*, 2020; Elbanna, 2006). Nonetheless, little attention has been dedicated to examining its role in the international SDMP context.

Conceptually, intuition has been investigated from several perspectives, such as psychology, philosophy, behavioral sciences and management. Consequently, multiple definitions of intuition have emerged from the literature (Epstein, 2010). One of the most adopted conceptualizations of intuition is that proposed by Dane and Pratt (2007, p. 40), who described it as “affectively charged judgments that arise through rapid, non-conscious, and holistic associations”.

This definition is consistent with the one proposed by Kahneman (2011) in his work. According to the author, human beings are intuitive thinkers but their intuition is imperfect with the result that judgments and choices often deviate substantially from the predictions of normative statistical and economic models (Shleifer, 2012). Indeed, while the rational dimension is related to the rules of logic and statistics, intuition is linked to heuristic roles

since it can be conceptualized as a mechanism subject to errors and even irrationality (Guercini and Milanese, 2020; Guercini *et al.*, 2014; Guercini, 2012).

More recently, Chereau and Meschi (2021, p. 6) conceptualized intuition as a central component of entrepreneurial behavior by defining it as “the individual’s ability to quickly recognize weak signals in the business environment, filter them and anticipate the possibility to capture value from these opportunities”.

Moreover, intuition can be associated with fast thinking (Bager, 2021; Osiyevskyy and Dewald, 2015), that is influenced by experiences, emotions and memories, while slow thinking is influenced by facts, logic and evidence (Kahneman, 2011). Fast judgments, based on intuition, can be overridden by slow judgments based on examination. This often happens when fast thinking fails to form a logical/acceptable conclusion or produces significant errors (biases).

By analyzing the many existing conceptualizations of intuition, Baldacchino *et al.* (2015) detected four specific characteristics identifying it.

Notably, the first feature refers to the limited presence (or even absence) of conscious deliberation since, as claimed by Hogarth (2001, p. 14), “the essence of intuition or intuitive responses is that they are reached with little apparent effort, and typically without conscious awareness”.

The holistic dimension represents the second characteristic since intuitive processes are associative, with respect to the analytical ones which are rule-based.

Third, intuition, along with feelings and emotions, are all considered elements composing the information available to the entrepreneur’s mind (Pidduck *et al.*, 2021), to such an extent that several authors clearly identified a link between intuition and affect (Epstein, 2010).

Finally, the last feature characterizing the intuition dimension regards the leading task played by experience and expertise, which assume a vital role in intuitive processes (Epstein, 2010; Simon, 1987).

At once, the fragmented nature of intuition has also led researchers to the necessity of categorizing its antecedents and outcomes (Mitchell *et al.*, 2005). In particular, for what concerns the antecedents, Baldacchino *et al.* (2015) identified two sets, namely (1) experience and expertise and (2) the level of uncertainty associated with the task (Gustafsson, 2006).

From the outcomes’ perspective, the literature has associated the adoption of intuitive practices to several results, such as creativity and innovation (Issack, 1978); the improvement of competitiveness (Behling and Eckel, 1991); opportunity identification and recognition (Dutta and Crossan, 2005); improved organizational (Khatri and Ng, 2000) and financial performance (Sadler-Smith, 2004); a rapid or more efficient decision-making (Simon, 1987) and self-efficacy (Kickul *et al.*, 2009). By focusing on the performance outcome, the literature is increasingly interested in analyzing the influence of intuitive thinking on this dimension (Zhang *et al.*, 2015). In particular, some scholars have specifically investigated the relative impact of intuition and rational styles on SMEs performance (Zacca *et al.*, 2017). Sadler-Smith (2004) defined intuition and rationality as two opposite sides of the cognitive style. Indeed, while rationality is conceptualized as “objective, sequential, convergent, logical and detailed”, intuition is represented by the following adjectives: “divergent, simultaneous, feeling and holistic” (Sadler-Smith, 2004, p. 161). Although from the literature, conflicting results related to the impact of intuitive or rational styles on performance outcomes emerged (Zacca *et al.*, 2017), different studies (Goll and Rasheed, 2005; Miller and Cardinal, 1994; Schwenk and Shrader, 1993) identified a positive and significant relationship between formal and systematic analyses and planning, which are indicative of rationality in decision-making (Jiang *et al.*, 2021) and firm performance. In addition, further studies suggested that the adoption of intuitive practices may favor idiosyncrasies in decision-making, thus leading to a decrease in performance (Phillips *et al.*, 2016; Liberman-Yaconi *et al.*, 2010).

Starting from these previous results and from the fact that (1) the literature identifies a significant relationship between rationality and performance; (2) intuition in decision-making

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represents the antithesis of rationality; (3) SMEs usually do not have enough resources to carry out systematic analyses during international market and entry mode decision processes, a negative impact of intuitive processes on SMEs international performance is expected.

Thus

*H1.* The higher the adoption of intuitive practices, the lower the international performance.

### 2.3 Overconfidence and SDMP in the SMEs context

From the literature specifically focused on the analysis of the SDMP in the SMEs context (Petrou *et al.*, 2020; Francioni *et al.*, 2015, 2017; Dimitratos *et al.*, 2011; Dimitratos, 2010; Gibcus *et al.*, 2009; Jøcumsen, 2004) emerges how these firms are still characterized by high levels of failure in international scenarios. More in detail, their poor performances are often triggered by inadequate strategic decisions (Francioni *et al.*, 2015). Therefore, within this context, it becomes fundamental to analyze the main biases influencing the decision-maker's reasoning (Wilson and Perepelkin, 2020).

Among these biases, overconfidence represents a key feature of individual decisions (Winkler *et al.*, 2021; Wang *et al.*, 2020; Kollmann *et al.*, 2019; Walter and Heinrichs, 2015).

In particular, several studies, with a focus on disciplines such as economics, finance and management, detected the relevance of this specific individual bias, especially in complex and uncertain environments (Robinson and Marino, 2015; Shipman and Mumford, 2011). Notably, uncertainty can foster overconfidence since decision-makers misinterpret the risks they face or because it offers more space for discretion (Kahneman and Lovallo, 1993).

Generally, entrepreneurs tend to be more overconfident with respect to ordinary employees (Dabić *et al.*, 2021; Wang *et al.*, 2020; Fretschner and Lampe, 2019; Arend *et al.*, 2016; Cassar and Gibson, 2007). At once, this overconfidence leads them to strongly believe that their information/estimates are more accurate with respect to reality, or that they own greater skills and capabilities than average (Moore and Healy, 2008).

Conceptually, overconfidence has been described in several ways. Notably, one of the first definitions has been proposed by Busenitz and Barney (1997), who conceptualized it as the act of overestimating the probability of being right.

Carter *et al.* (2007) defined overconfidence as the tendency of overestimating the probability of success.

According to Kahneman (2011), overconfidence is an undue confidence in what the mind believes it knows. He suggests that people often overestimate how much they understand about the world and underestimate the role of chance in particular. Overconfidence is almost always accompanied by the so-called "self-attribution bias" which, according to Shefrin (2002, p. 101), "occurs when people attribute successful outcomes to their own skill but blame unsuccessful outcomes on bad luck". This is related to the excessive certainty of hindsight when an event appears to be understood after it has occurred. Moreover, overconfidence reinforces the tendency to give more relevance to new data confirming prior beliefs, than those against them (confirmation bias).

Subsequently, Gino and Pisano (2011) and Wilson and Perepelkin (2020) underlined that an excess of overconfidence can make individuals believe they do not need to change anything in their conduct. More in detail, Winkler *et al.* (2021, p. 4) pointed out how an excessive overconfidence can tempt entrepreneurs to "channel problem framing and directing their search for solutions based on successful experiences made in the past". Finally, Wang *et al.* (2020, p. 7) described an overconfident person as an individual with "more confidence in their own judgment than is justified, which leads to bias about uncertain events".

In order to synthesize these multiple definitions, the psychological literature conceptualized overconfidence as an umbrella composed by three different conditions, namely overprecision, overplacement and overestimation (Grežo, 2021). In detail, overprecision is related to the “systematic underestimation of the variance of a relevant measure affecting performance (demand, costs, etc.)” (Ancarani *et al.*, 2016, p. 172). Conversely, overplacement occurs when decision-makers consider themselves to be better than others (Moore and Healy, 2008). Overestimation takes place when decision-makers show unreasonable optimism about their performance or probabilities of success (Griffin and Tversky, 1992) and ability to control (Thompson *et al.*, 1998).

Notwithstanding this proliferation of definitions and the importance of analyzing the effects of overconfidence in the decision-making process, a surprising paucity of empirical studies emerges (Ancarani *et al.*, 2016).

Therefore, starting from these assumptions, the aim of this study is to empirically enrich the analysis of the overconfidence construct by examining its influence on both intuition and international performance.

*2.3.1 Overconfidence and intuition.* Given that the analysis of the intuitive processes' antecedents is still in its infancy, thus underlying the necessity to examine further possible predictors, in this study we focused our attention on overconfidence as a possible antecedent of intuition.

In particular, the adoption of intuitive practices requires a feeling of certitude (Shirley and Langan-Fox, 1996) and the confidence that intuitions are correct, especially in the absence of rational analyses (Dane and Pratt, 2007). Starting from this assumption and from the fact that one of the main traits characterizing overconfidence concerns the high degree of confidence and certitude related to the decision-maker's beliefs (Khalaf and Hammash, 2017), a direct relationship between overconfidence and the adoption of intuitive practices could be expected. Therefore, if intuition is supposed to have a negative effect on performance, similarly overconfidence may contribute to this kind of effect.

In this respect, it could be hypothesized that the higher the decision-maker's sense of confidence, the higher the adoption of intuitive practices. Thus, the second hypothesis is formulated:

*H2.* The higher the decision-maker's overconfidence, the higher is the adoption of intuitive practices.

*2.3.2 Overconfidence and performance.* To date, most studies focused on the overconfidence construct have examined its negative effects. In particular, the literature has corroborated how overconfidence can lead to several negative outcomes, such as a less attentive management of inventories; more costs; poor performances (Ancarani *et al.*, 2016); poor judgment and decision-making of managers (Shipman and Mumford, 2011); over-trading behavior in the stock market (Odean, 1998); use of more long-term debt (Ben-David *et al.*, 2007); imprecision of forecasts (Hribar and Yang, 2011); excessive risk taking (Li and Tang, 2010); risk underestimation; inappropriate procedures in the selection, evaluation and monitoring of external sources (Ren and Croson, 2013); corporate investment distortions (Chen *et al.*, 2014); excessive business entry (Camerer and Lovo, 1999).

Conversely, very few researches have attempted to examine the potentially positive effects of overconfidence. Notably, there may be some contexts in which this decision-makers' feature could be adaptive. For instance, when entrepreneurs operate in a context characterized by high risks and obstacles, the overconfident feeling could help them in order to move on without surrendering (Fast *et al.*, 2012).

Moreover, while Trevelyan (2008) identified the potentially positive effect of overconfidence and optimism in the phase of launching a venture, Kotlyar and

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Karakowsky (2007) claimed that overconfidence can lead to better decision-making processes in the case of negatively-framed situations. More in detail, the main reasons leading to this result are at least two. First, overconfidence could counterbalance the negative effects of perceived threats on decision-making. Indeed, given that threats on decision-making are mediated by emotional states of stress and anxiety, overconfidence can promptly offer managers a stronger sense of control, thus reducing these feelings and consequently improving their skills to engage in high quality decision-making processes (Staw *et al.*, 1981).

Second, overconfidence can distract from focusing on upcoming losses, thus allowing to concentrate on strategies for preventing potential threats.

Moreover, by focusing on the decision-maker's narcissism, that is strictly connected to overconfidence, Oesterle *et al.* (2016) found a positive relationship between this personality characteristic and the growth of a firm's degree of internationalization.

Overall, despite its importance in the decision-making process, to the best of the authors' knowledge, no studies have examined the role of overconfidence during the international market selection and entry mode decision processes.

However, starting from the assumption that overconfidence can result in better decision-making processes (Kotlyar and Karakowsky, 2007), and that superior decision-making processes can lead to positive outcomes (Hameed *et al.*, 2017), it could be hypothesized that overconfidence can also have a positive effect on international performance. Therefore, the third hypothesis is postulated:

*H3.* The higher the decision-maker's overconfidence, the better the international performance.

Nevertheless, the three proposed hypotheses appear to be contradictory: overconfidence and intuition are positively correlated, but the former has a positive effect on international performance and the latter a negative one.

In our research, if H2 is rejected, while H1 and H3 are confirmed by data, the negative relationship between overconfidence and intuition will require to be better investigated. A hypothesis could be that intuition is a mediator between overconfidence and international performance. For this reason, we will discuss it in the next paragraph.

*2.3.3 Intuition as a mediator.* As previously highlighted, overconfidence directly influences international performance (Oesterle *et al.*, 2016). However, overconfidence could also have an indirect influence on international performance through its effect on intuition. This assumption arises from previous studies demonstrating that intuition could be an antecedent of international performance (Phillips *et al.*, 2016; Elbanna *et al.*, 2013; Liberman-Yaconi *et al.*, 2010), but it could also potentially be an outcome of overconfidence (Dane and Pratt, 2007). Therefore, an indirect influence of overconfidence on international performance can be hypothesized since this direct relationship could be mediated by intuition. This could mean that being overconfident, *per se*, is not a sufficient condition for achieving higher international performance, since the adoption of intuition during international market and entry mode decision processes have influence on performances.

Consequently, the last research's hypothesis is posited as follows:

*H4.* The adoption of intuitive practices during SDMP will mediate the direct effects of decision-maker's overconfidence upon international performance such that the significance is reduced when the indirect effects of overconfidence through decision-making intuition are included in a total effects model.

F1 The following research model is proposed (Figure 1).

**3. Methodological issues**

*3.1 Research design*

The objective of the paper is to examine the adoption of intuitive practices in the international SDMP context. As mentioned before, three main questions are explored: first, the research aims to examine the SDPM within international small businesses, thus trying to fill a research gap related to the analysis of this specific process in the SMEs context; second, the study aims to explore the influence of the decision-makers’ overconfidence on the adoption of intuitive practices, as well as on the international performance; third, the research tests the possible mediating effect of intuition on the relationship between overconfidence and international performance. Given that obtaining high quality data on entrepreneurial phenomena represents a difficult task, we opted for a consolidated technique, through which obtaining useful data: a survey. One of its primary benefits is that it allows for direct measurement of complex variable, such as “overconfidence” despite the known criticism of the survey method (e.g. potential non-response biases or measurement error) (Maula and Stam, 2020).

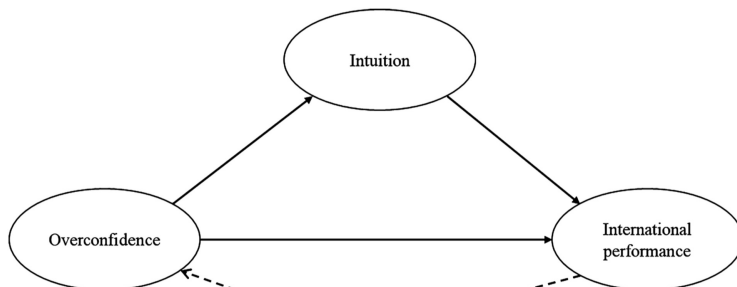
Notably, the research has been organized in the following steps: (1) questionnaire preparation in order to identify a set of questions suitable to obtain the information that could match the research questions; (2) identification of the “decision-maker figure for international strategic activities” as the firm target to be interviewed; (3) preparation of the interviewers in order to obtain the maximum homogeneity in the data collection and in order to minimize possible biases; (4) identification of firm data sources as presented in section 3.2; (5) data collection through questionnaire-supported telephone interviews; (6) construct measurement and data analysis with the exploration of potential biases.

*3.2 Data sources and data collection*

For testing our hypotheses, the data have been collected from a sample of Italian mechanical SMEs. The choice of selecting a specific industry allowed to moderate firms’ heterogeneity depending on structures/processes which are sector-related. In addition, the Italian mechanical sector has been selected since it is characterized by a relevant presence of SMEs.

For what concerns the firms’ identification, the AIDA–Bureau van Dijk database was used. In particular, we selected those firms having the following features: (1) headquarters in Italy; (2) SMEs according to the European Union’s definition (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs) (2017); (3) manufacturing mechanical products; (4) with available contact information. Additionally, following Musso and Francioni (2014, p. 304) we decided to exclude smaller firms (one to five employees) for including “only those firms that have a real possibility of choice in international market and entry mode decisions”.

Through the adoption of these criteria, a total of 3,678 firms have been identified, which have been contacted by e-mail with the final aim of organizing a questionnaire-supported telephone interview with the main decision-maker for international strategic activities.



**Figure 1.**  
Research model



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A semi-structured questionnaire has been then submitted to the selected sample of firms. Overall, a total of 160 decision-makers responded and completed the interview.

### 3.3 Construct measurement

About intuition (Cronbach's  $\alpha = 0.609$ ), we examined the element with reference to the extent of intuition during two specific international strategic decisions, such as foreign market selection and entry mode choice.

As regards the measurement, we used a reduced and adapted version of [Khatri and Ng \(2000\)](#) five-point Likert-scale, where questions asked about how decision-maker (during these two key process strategic decisions) focuses the attention on an intuitive and instinctive rather than analytical decision-making process.

About overconfidence (Cronbach's  $\alpha = 0.751$ ), we opted for a set of indirect indicators based on some features that are typical of overconfident people. Given that overconfidence reveals itself in the form of "self-attribution bias" ([Shefrin, 2002](#)), we asked interviewees if they think that negative events of their lives were mostly caused by bad luck. A positive answer was what we expected from an overconfident person. Moreover, it is also well known that high self-esteem is one of the main causes of overconfidence ([Kramer et al., 1993](#)), therefore we also asked decision-makers if they consider themselves dominant and equipped with leadership skills. One more signal of overconfidence is the underestimation of the risks associated to the adopted plans ([Kahneman and Lovallo, 1993](#)). For this reason, we asked respondents if they were sure that their plans were going to work when they adopted them. In other words, even if a direct measure of overconfidence is hardly obtainable from a survey, we tried to detect it from its most typical symptoms. By combining the answers to these questions, we obtained a picture of how overconfident the decision-maker was.

With regard to international performance, (Cronbach's  $\alpha = 0.803$ ), we focused the attention on the subjective performance ([Dimitratos et al., 2011](#)) by asking interviewees, through a single item, to evaluate the degree of their perceived performance in international markets compared with that of their direct competitors. Notably, we decided to adopt subjective measures of performance, instead of objective ones, for two main reasons. First, subjective measures allow to better capture the multidimensional nature of performance ([Thanos et al., 2017](#); [Dimitratos et al., 2011](#)). Second, in the SME context, the access to objective financial data, related to the international performance, is particularly difficult since few firms report their international results separately with respect to the overall performance ([Zahra and Garvis, 2000](#)). Therefore, subjective measures tend to be more suitable ([Dimitratos et al., 2011](#)). Finally, previous studies found that subjective data are directly correlated to objective ones ([Venkatraman and Ramanujam, 1987](#)).

In order to remove the influence of other variables on the international SDMP, we adopted different control variables. First, we decided to control in terms of firm size (number of employees) and firm age (years), which could indicate variations in both environmental and organizational characteristics experienced by firms ([Oliveira et al., 2018](#)). Second, we controlled for decision-makers' age and international experience (years), which could imply differences in their risk attitudes and orientations ([Oliveira et al., 2018](#)). Third, for controlling international complexity, we used the environmental hostility variable, for which we adopted the scale proposed by [Francioni et al. \(2015\)](#), which were inspired by the [Khandwalla's \(1977\)](#) scale [1].

### 3.4 Examination of potential biases

Based on the number of employees and revenue, a comparison between the responding and non-responding firms has been made, and no significant differences emerged. This finding permitted us to confirm that non-response bias should not be an issue.

Furthermore, different tactics (Podsakoff *et al.*, 2003) have been adopted in order to prevent potential biases. Notably, in order to minimize distortion and memory failure problems, it has been asked to the interviewees to focus on recent international strategic decisions (such as those related to international market and entry mode selection), thus interviewing only the major participants in the decisions.

Second, respondents have been completely assured about (1) the responses anonymity and confidentiality and (2) the fact that each item had no “right” or “wrong” answer, thus ensuring that they would not respond in a “socially desirable” manner (Podsakoff *et al.*, 2003).

Finally, the Harman’s single-factor test has been performed. A principal-components factor analysis on the items identified 7 factors with eigenvalues greater than 1.0. These factors together accounted for 68.1% of the total variance. The first (largest) factor did not account for the majority of the variance (19.1%). Thus, our results suggest that common method bias is not of great concern in our study.

**4. Results**

Table 1 provides the means, standard deviations and correlations of the variables evaluated in this study. In particular, even if some strong correlations patterns between the variables emerged, no correlation coefficients were higher than 0.50, except the relationship between the decision-maker’s years of international experience and age.

In addition, collinearity diagnostics have been performed in order to verify possible multicollinearity problems, such as tolerance and variance inflation factor (VIF). In particular, the tolerance values for the regression variables were significantly higher than 0.10, while VIF values were between 1 and 2, thus giving a further motivation for eliminating the multicollinearity possibility (Field, 2005).

Table 2 shows the results of the hierarchical regression analyses.

During the first step, we inserted the control variables (Model 1a). We did not find any relationship except between firm size and international performance ( $\beta = 0.107, p < 0.05$ ), which is consistent with the ability of larger firms to involve greater amount of resources (human, financial, organizational) for a more effective approach to the development of foreign markets.

In strong support of our Hypothesis 1, Model 1c of Table 2 indicates that intuition is negatively related to international performance ( $H1: \beta = -0.138, p < 0.05$ ). In addition, results from Model 2a to Model 2b display the relationship between overconfidence and intuition. More in detail, Model 2b shows a negative relationship between overconfidence and intuition, thus disconfirming our hypothesis ( $H2: \beta = -0.244, p < 0.05$ ). Moreover, our hypothesis 3, which is related to overconfidence and international performance (Model 1b), was verified,

**Table 1.**  
Mean, standard deviations, collinearity statistics and correlation

Variable	1	2	3	4	5	6	7	8
1. International performance	1							
2. Overconfidence	0.257**	1						
3. Environment hostility	0.019	0.162*	1					
4. Firm age	0.008	-0.138	-0.133	1				
5. Firm size	0.165*	0.004	-0.030	0.342**	1			
6. Decision-maker-experience	0.122	-0.016	-0.029	0.225*	0.112	1		
7. Decision-maker-age	0.013	-0.142	-0.140	0.057	-0.050	0.560**	1	
8. Intuition	-0.203*	-0.214*	-0.259**	-0.045	-0.153	0.023	0.142	1

Note(s): \* $p < 0.05$ ; \*\* $p < 0.01$

	Model 1a	Model 1b International performance	Model 1c	Model 1d	Model 2a Intuition	Model 2b
<i>Control variable</i>						
ENV_HOST	0.010 (0.904)	-0.021 (0.789)	-0.039 (0.636)	-0.057 (0.486)	-0.355** (0.001)	-0.326** (0.003)
FIRM_AGE	-0.003 (0.352)	-0.001 (0.618)	-0.003 (0.311)	-0.002 (0.546)	-0.001 (0.713)	-0.003 (0.497)
FIRM_SIZE	0.107* (0.042)	0.101 (0.048)	0.090 (0.085)	0.088 (0.084)	-0.122 (0.085)	-0.117 (0.096)
INT_EXP_DEC	0.088 (0.120)	0.071 (0.200)	0.085 (0.128)	0.070 (0.200)	-0.021 (0.785)	-0.004 (0.953)
AGE_DEC	-0.046 (0.544)	-0.010 (0.891)	-0.029 (0.702)	0.000 (0.997)	0.125 (0.222)	0.091 (0.372)
<i>Independent variable</i>						
OVERCONFIDENCE		0.258** (0.002)		0.232** (0.005)		-0.244* (0.028)
<i>Mediating variables</i>						
INTUITION			-0.138* (0.020)	-0.109 (0.065)		
R <sup>2</sup>	0.046	0.106	0.079	0.126	0.104	0.132
Adj. R <sup>2</sup>	0.015	0.071	0.043	0.086	0.075	0.098
Model F	1.488	3.030	2.195	3.135	3.590	3.883
ΔR <sup>2</sup>	0.046	0.060	0.033	0.020	0.104	0.028
ΔF	1.488	10.296	5.512	3.466	3.590	4.893
<b>Note(s):</b> Values displayed in the table are the standardized regression coefficient. <i>N</i> = 202. * <i>p</i> < 0.05; ** <i>p</i> < 0.01; *** <i>p</i> < 0.001						

The adoption  
of intuitive  
practices

**Table 2.**  
Results of regression  
analysis

since a direct and positive relationship was found between overconfidence and international performance (H3:  $\beta = 0.258, p < 0.01$ ).

Lastly, for testing the possible role of mediator of intuition in the relationships between decision-maker overconfidence and international performance, we followed the [Baron and Kenny's \(1986\)](#) three-step procedure. In particular, for testing the mediation, there must be three pre-conditions. According to the first condition, the independent variable must influence the mediator, and in our case, overconfidence affects intuition (Model 2b). Additionally, the second condition is related to the fact that the independent variable must influence the dependent variable, and [Table 2](#) (Model 1b) shows that overconfidence affects international performance. Finally, according to the third, the mediator must influence the dependent variable, and in our case, intuition affects international performance (Model 1c).

After confirming these three conditions, [Baron and Kenny \(1986, p. 1,177\)](#) stated that "perfect mediation holds if the independent variable has no effect when the mediator is controlled". Therefore, in the median test for international performance, the effect of overconfidence is reduced when intuition is introduced (Model 1d), supporting our [hypothesis 4](#).

## 5. Discussion

Theoretically, the study offers an original perspective by combining the SDMP analysis with that of international strategy by specifically focusing on the SMEs context. More in detail, the paper enhanced the existing literature by (1) deepening the analysis of the overconfidence effects in the decision-making ([Ancarani et al., 2016](#)); (2) examining the roles of decision-maker's overconfidence and the adoption of intuitive practices in the international SDMP; (3) investigating the role of overconfidence as a possible antecedent of intuition, thus deepening the analysis of the intuitive processes' antecedents that is still in its infancy ([Baldacchino et al., 2015](#)).

About results, the first hypothesis, concerning the relationship between intuition and international performance, has been supported, thus allowing to corroborate how a more intuitive SDMP leads to poorer international performance. Therefore, this result confirms previous studies which have identified a negative relationship between intuitive practices and performance ([Phillips et al., 2016](#); [Liberman-Yaconi et al., 2010](#)), as well as a positive one between rationality in decision-making and firm performance ([Goll and Rasheed, 2005](#); [Miller and Cardinal, 1994](#); [Schwenk and Shrader, 1993](#)). It can be deduced that the use of decisional heuristics and fast thinking ([Kahneman, 2011](#)) is hardly compatible with the requirements of complex decisions, such as those related to internationalization, that require well-established and rational decisional methods. Consequently, decisions can be based on a non-complete evaluation of the key factors influencing international strategies, thus driving to poorer performances.

The most interesting result, in contrast with previous studies (e.g. [Dane and Pratt, 2007](#)) and our hypothesis (H2), is that a higher overconfidence attitude brings to follow a less intuitive approach during the international market and entry mode decision-making processes. This apparently puzzling result can be interpreted in the light that more rational decisional procedures bring in general to better performances, thus (1) feeding the self-esteem of overconfident decision-makers; (2) convincing them to limit the adoption of intuitive decisions. Indeed, overconfidence is a characteristic of the decision-maker, who processes information and factors in terms of self-representation by identifying them with his/her personality traits, emotional states and affective states. Therefore, within overconfidence, decisions are driven by a search for confirmation of the decision-maker's self-representation.

On the other hand, intuition provides a fast elaboration of cognitive elements related to the decision that must be taken, independently from the characters of the decision-maker.

The third finding regards the positive relationship between overconfidence and international performance (H3), thus allowing to confirm previous studies

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(Hameed *et al.*, 2017; Kotlyar and Karakowsky, 2007). Being overconfident does not necessarily mean that decision-makers are naïve or subject to any kind of cognitive bias. The decisions about internationalization are risky, and sometimes good opportunities are missed due to an excessive fear of a bad result (loss aversion). An overconfident decision-maker is more prone to better performances, being less frightened to adopt a risky decision with a positive expected result.

Finally, the study offers an element of novelty by analyzing the possible role of intuition as a mediator in the relationship between overconfidence and international performance. In particular, the result partially supports our hypothesis (H4) by demonstrating the relevance of intuition. Of course, overconfidence and intuition do not act separately. In this sense, it is true that intuition mediates between overconfidence and the decision to be taken, thus calming emotional drivers thanks to the rapid processing of cognitive data. Overconfidence provides the emotional thrust, and intuition contextualizes it with a quick processing of external information, thus making the overall process flexible and not easily codifiable.

Anyhow, the way in which intuition can affect international performance should be deepened. Therefore, additional analysis of this relationship represents a promising future research area.

At managerial level, the study offers an interesting insight for managers and practitioners. It underlines, on the one hand, the relevance of overconfidence as a key decision-maker's character, and on the other, the leading role of intuition as a feature of the decision-making methodology. In particular, managers should carefully consider the way in which overconfidence and intuition influence each other.

In addition, the paper provides further practical recommendations for small business managers facing complex strategic decisions, like those related to international market development. More in detail, depending on the objective and perceived environmental hostility of foreign markets, the balance between overconfidence and intuition may be managed by decision-makers, being aware of their direct and indirect influence on performance.

Finally, by showing these dynamics, the study provides interesting "how-to" suggestions related to the modalities of tasks' attribution to managers. Notably, the different tasks could be assigned depending on the managers' personal characteristics as regards their level of confidence and self-esteem, and their attitude to adopt intuitive or rational decision-making processes.

Overall, these recommendations assume an even greater significance in the current context characterized by the COVID-19 pandemic. Indeed, the literature (Bendickson, 2021) underlines how exogenous unpredictable shocks, like a health crisis, profoundly influence entrepreneurs' decisions. Therefore, in the face of the present scenario, it becomes even more crucial to analyze the role of overconfidence and intuition in the formation of the entrepreneurs' decision-making processes, who have to adapt themselves to international dynamics strongly influenced by a global pandemic.

This study presents some limitations. The first one is connected to the adopted sample, composed by small firms belonging to the Italian mechanical sector. Therefore, the results are specifically related to this sector and country. For this reason, future research could analyze other industries and/or geographical areas.

A second limitation concerns the selected SDMP dimension. In particular, even if intuition represents an under-investigated concept requiring more attention (Baldacchino *et al.*, 2015), future research could investigate further dimensions in combination with it, such as formalization, hierarchical decentralization and lateral communication (Dimitratos *et al.*, 2011).

Finally, future studies could also focus on additional decision-maker's features, thus combining the analysis of overconfidence with other personality characteristics (e.g. creativity, associative predisposition).

1. A full version of the questionnaire is available upon request.

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