



# Institutions, resources, and strategic orientations: A meta-analysis

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## Abstract

Integrating the institution-based view and the resource-based view, this article explores the contingent effects of national institutions and firm resource bases on the relationships between strategic orientations—i.e., entrepreneurial orientation (EO) and market orientation (MO)—and firm performance. This is accomplished through a meta-analysis of 160 independent samples reported in 154 studies drawing from 35,367 organizations in 33 countries (22 developed and 11 emerging economies). Considering combined contingent effects of institutions and resource bases, we find that strategic orientations—both EO and MO—in developed economies lead to higher performance in large firms than in small firms. In emerging economies, the effect of EO and MO on performance is, in contrast, more pronounced in small firms.

**Keywords** Entrepreneurial orientation · Market orientation · Institutions · Resources · Meta-analysis

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Strategic orientation refers to processes, practices, and principles that direct and influence activities of a firm and generate the behaviors intended to ensure viability and performance of the firm (Li, Wei, & Liu, 2010). The strategic management literature has highlighted the importance of strategic orientation in creating and maintaining superior organizational performance (Atuahene-Gima & Ko, 2001; Lumpkin & Dess, 1996, 2001; Matsuno, Mentzer, & Özsoyner, 2002; Peng, 2003; Song, Droge, Hanvanich, & Calantone, 2005; Zhou, Yim, & Tse, 2005). In the literature on strategic orientation, the two fundamental orientations are entrepreneurial orientation (EO) and market orientation (MO) (Li, Liu, & Zhao, 2006). EO reflects a firm's aggressive behaviors in terms of innovation, risk taking, and proactiveness (Covin & Slevin, 1989). Meanwhile, Lumpkin and Dess (1996) conceptualized EO as a multidimensional construct by adding two dimensions: autonomy and competitive aggressiveness. MO refers to a firm's incremental behaviors for generating, disseminating, and responding to market intelligence (Kohli & Jaworski, 1990). Further, prior meta-analyses suggest that EO is beneficial for firm performance (Rauch, Wiklund, Lumpkin, & Frese, 2009; Rosenbusch, Rauch, & Bausch, 2013), and it is also useful to leverage MO to attain high performance (Cano, Carrillat, & Jaramillo, 2004; Ellis, 2006; Kirca, Jayachandran, & Bearden, 2005; Liao, Chang, Wu, & Katrichis, 2011; Shoham, Rose, & Kropp, 2005).

However, EO and MO represent distinctive business philosophies (Miles & Arnold, 1991). In fact, EO and MO affect firm performance differently (Baker & Sinkula, 2009; Bhuian, Menguc, & Bell, 2005; Li, Zhao, Tan, & Liu, 2008; O'Cass & Ngo, 2011). Thus, firms need to choose their strategic orientation appropriately in order to strengthen performance. For example, EO may be described as a set of exploratory, risk-seeking behaviors that encourage and support unarticulated or potential customer needs through radical innovation (Covin & Slevin, 1991; Lumpkin & Dess, 1996; Miller, 1983). However, MO focuses on meeting current customer needs rather than the development of new product innovations targeted at emerging new needs (Kohli & Jaworski, 1990). Thus, it is not clear whether EO or MO is more beneficial.

Contingency theory suggests that there is no optimal strategic orientation for all organizations, and that the most desirable choice of strategic orientation alters. This theory "argues for a fit with the contingency factors" (Hakala, 2011: 206; Volberda, van der Weerd, Verwaal, Stienstra, & Verdu, 2012). For example, although EO has generally been viewed as a positive determinant of Western firms' performance (Lumpkin & Dess, 1996), Hart (1992) found a negative impact of EO on the performance of U.S. firms. Su, Xie, and Li (2011) discovered that the relationship between EO and performance has an inverted U-shape for Chinese new ventures, but is positive linear for established ventures. Thus, firms reveal heterogeneous performance across different contexts. What are the key contingencies that influence the relationship between strategic orientation and firm performance?

Two research streams emphasize different contingency factors in the strategic management literature. Drawing on the institution-based view (IBV), one stream of research focuses on institutional context of the firm (Hoskisson, Eden, Lau, & Wright, 2000; Meyer & Peng, 2016; Peng, Nguyen, Wang, Hassenhuttel, & Shay, 2018b; Peng, Sun, Pinkham, & Chen, 2009; van Essen, Heugens, Otten, & van Oosterhout, 2012). Compared with firms in developed economies, firms in emerging economies face different national institutions in terms of market systems, norms, and economic development levels, which may influence organizational leverage of strategic action (Meyer, Estrin, Bhaumik, & Peng, 2009). Influenced by the resource-based view (RBV), the

other stream of research focuses on firm-level internal contingencies, especially the role of internal resource bases (Barney, 1991; Gatignon & Xuereb, 1997; Hitt, Dacin, Levitas, Arregle, & Borza, 2000). Specifically, the RBV suggests that internal resource bases may influence the impact of strategic orientation on firm performance (Hult, Ketchen, & Slater, 2005; Ketchen, Hult, & Slater, 2007; Wiklund & Shepherd, 2003).

To distinguish between two different effects of EO and MO on performance, we argue that it makes sense to answer the following questions: (a) How do national institutions affect the relationship between strategic orientation and firm performance? (b) How do firm resource bases affect this relationship? (c) How does the interaction between national institution and firm resource base affect this relationship?

We endeavor to make three contributions. First, by studying EO and MO together, we compare the differences between two strategic orientations. The prior literature has examined both direct and interactive effects of EO and MO on performance (Atuahene-Gima & Ko, 2001; Slater & Narver, 1995). However, it remains unclear whether EO or MO is the suitable strategic orientation for the firm. Responding to the calls by Foxall (1984), Atuahene-Gima and Ko (2001), and Hakala (2011), we develop a framework of organizational adaptive capabilities to distinguish between two different “logics” of EO and MO. Thus, we attempt to answer the questions “Which orientation?” and “When should it be chosen?” (Hakala, 2011: 206). We suggest that firms have different adaptive orientations based on their strategic choices with respect to institutional (external) and organizational resource (internal) environments. As a result, they adopt the most appropriate orientation in each particular context. Thus, we extend the current work to facilitate a better understanding of organizational choice of strategic orientation (Zahra & Covin, 1993).

Second, while much strategic orientation research focuses on internal organizational resource base, we incorporate an external lens to better understand the comparative effects of EO and MO on firm performance. While the IBV is viewed as an insightful theoretical tool for analyzing firm strategy (Peng et al., 2009, 2018b), such an external lens with a focus on institutions has been largely neglected in comparative research on EO and MO (Atuahene-Gima & Ko, 2001). By comparing firms in developed and emerging economies, we theoretically argue that institutions may change the effects of EO and MO on firm performance, and empirically investigate how firms choose their strategic orientations and when should each particular orientation be chosen (Hakala, 2011). As a result, we aspire to extend strategic orientation research and enrich the literature on the RBV and the IBV.

Finally, this article responds to the call for more evidence-based management research, which enables us to offer more solid advice for entrepreneurs and managers (Hou, Liu, Fan, & Wei, 2016). Strategic management and marketing scholars argue that both EO and MO are important drivers of firm performance (Hult & Ketchen, 2001). However, their importance in varying contexts and under varying conditions remains unclear (Yang, Dess, & Robins, 2019). Thus, by comparing EO and MO, this article informs entrepreneurs and managers on how the relationship between EO, MO, and performance is influenced by firm’s institutional environment and its resources.

## Strategic orientation

Embedded in organizational culture, strategic orientation is implemented by firms to engage in appropriate behaviors for sustained superior performance (Drazin &

Schoonhoven, 1996; Gatignon & Xuereb, 1997; Kumar, Jones, Venkatesan, & Leone, 2011; Slater & Narver, 1995). “Strategic orientation may facilitate a match between firm strategy and resource endowment and the adaptation to market conditions” (Mu & Di Benedetto, 2011: 337). Built on two types of primary strategic orientations, EO and MO are distinct and unique strategic choices that firms make when facing discriminating resource bases and external institutional environments (Li et al., 2010; Matsuno et al., 2002).

EO reflects the extent to which a firm innovates, takes risks, and acts proactively (Covin & Slevin, 1989; Miller, 1983) with respect to “pursuit of emerging market opportunities and the renewal of existing areas of operation” (Hult & Ketchen, 2001, p. 901). A firm with a great deal of EO often grasps and enhances organizational competencies and creates new businesses by displaying aggressiveness and autonomy (Lumpkin & Dess, 1996).

MO is conceptualized as a three-dimension construct that includes intelligence generation, dissemination, and responsiveness (Day, 1994; Hurley & Hult, 1998; Jaworski & Kohli, 1993; Kohli & Jaworski, 1990). Meanwhile, Narver and Slater (1990) defined MO as including three components: customer orientation, competitor orientation, and inter-functional coordination, which make the firm “most effectively and efficiently create the necessary behaviors for the creation of superior value for buyers” (p. 21). Thus, MO “continues superior performance for the business” (Narver & Slater, 1990: 21).

As two primary strategic orientations, EO and MO represent different types of organizational “logic” (Atuahene-Gima & Ko, 2001). First, EO mirrors exploratory learning mechanisms that engender proactive, risk-seeking behaviors in product innovation processes (Lumpkin & Dess, 1996). However, MO mirrors adaptive learning that engenders a reactive response to customer needs and competitor activities (Slater & Narver, 1995; Yu, Hao, Ahlstrom, Si, & Liang, 2014). Second, firms with a strong EO may more readily accept uncertainty or unknown opportunities embedded in emerging markets where they have higher risks and opportunities (Li, Chen, Liu, & Peng, 2014). On the one hand, EO is quite appealing to emerging economy firms that have to compete in highly turbulent markets (Liu, Li, & Xue, 2011; Maatooft & Tajeddini, 2011; Mutlu, Wu, Peng, & Lin, 2015; Peng, Lebedev, Vlas, Wang, & Shay, 2018a; Sun, Yang, & Li, 2014). On the other hand, scholars find that firms with a high MO would be prone to operate in stable, predictable environments, eventually willing to allocate resources to current markets to ensure relatively low-risk adaptability (Liu et al., 2011). Third, EO focuses on taking risks to explore market opportunities and resources and then to exploit them to enhance internal innovation ability or to introduce new products to the market for creating first-mover advantage (Kumar et al., 2011; Mu & Di Benedetto, 2011). Further, MO may “not encourage a sufficient willingness to take risks, ... and this danger is the result of narrowly focusing market intelligence efforts on current customers and competitors, thus ignoring emerging markets and/or competitors” (Slater & Narver, 1995: 67).

## National institution as a contingency

The IBV suggests that the interplay between institutions and organizations influences a firm’s strategic choices (Meyer & Peng, 2016; Peng et al., 2009, 2018b; Yamakawa,

Peng, & Deeds, 2008). Strategic choices are a reflection of the formal (laws, regulations, norms) and informal (cultures, ethics, values) institutions that both regulate and shape the behaviors of actors, serving as enablers or constraints (Bruton & Ahlstrom, 2003; Bruton, Ahlstrom, & Puky, 2009; Hoskisson et al., 2000). For instance, there is a debate on whether MO influences firm performance more strongly in developed or emerging economies (Cano et al., 2004; Ellis, 2006). Chan and Ellis (1998) revealed that the strongest MO effect is typically present in the United States. Since then, strong, and positive effect of MO on performance was also found in Australia (Farrell, 2000), Indonesia (Soehadi, Hart, & Tagg, 2001), and the Netherlands (Langerak, Hultink, & Robben, 2004). Further, Cano and colleagues (Cano et al., 2004) showed no difference of the robust positive relationship between MO and firm performance across 23 countries via a meta-analysis. In another meta-analysis of 56 studies from 28 countries, Ellis (2006) found that the level of economic development positively moderates the relationship between MO and performance ( $r = .35$ ).

Developed economies are characterized by “stable demand, intense competition, short channels and sophisticated buyers” (Ellis, 2006: 1098). On the one hand, generation, dissemination, and utilization of market intelligence—the three dimensions of MO (Kohli & Jaworski, 1990)—are thought to positively obtain and digest market information than competitors do (Ellis, 2006). However, EO would encourage entrepreneurs and managers to take risks and proactively focus on internal technological innovations (Covin & Slevin, 1989). In this situation, firms in developed economies may favor tighter links with MO rather than EO in order to attain superior performance. On the other hand, firms embedded in developed economies would enjoy relatively ideal legal and market mechanisms (Meyer et al., 2009). A high degree of marketization in developed economies implies a high level of market monitoring mechanisms and certain market intermediaries (Lin, Peng, Yang, & Sun, 2009). Therefore, in such mature and relatively stable developed economies, the performance benefits of EO may be weaker than performance benefits of MO. Firms with EO would face little motivation and pressure to strengthen and update their technological base to improve their competitive advantage, while firms with a great deal of MO may be more willing and capable to collect articulated market intelligence respond and satisfy unmet customer needs in time in order to achieve superior performance (Maatooft & Tajeddini, 2011). Thus, while MO may still be helpful, this setting may constrain the impact of EO. Overall, MO may perform better than EO in developed economies.

**H1a** In developed economies, the impact of MO on performance is stronger than that of EO.

Emerging economies are characterized by intense uncertainties on the one hand and tremendous opportunities on the other hand (Ellis, 2005; Wright, Filatotchev, Hoskisson, & Peng, 2005). Moreover, emerging economies have imperfect legal systems and inadequate regulatory and enforcement regimes (Boisot & Child, 1996). A low degree of marketization in emerging economies means that firms hardly achieve continuous competitive performance, because of intense uncertainties, lean resources, and a lack of complete market mechanisms (Shi, Sun, & Peng, 2012). High uncertainties involve more market opportunities, and fast economic development creates more demand. Thus, emerging economies often simultaneously produce new

opportunities and high business risks (Liu et al., 2011). As a result, EO may be leveraged effectively in highly uncertain environments (Rosenbusch et al., 2013; Zhao, Li, Lee, & Chen, 2011), which “give rise to more opportunities, challenges, and greater need for innovation, risk taking, and proactiveness” (Cao, Simsek, & Jansen, 2015: 1960).

However, volatile needs of customers in emerging economies may weaken the performance contribution of MO. Only focusing on current needs of customers, firms with strong MO may lose certain potential opportunities (Li et al., 2008) and may not discover or satisfy new customer needs in a timely fashion. In such settings, “an organization may be able to get away with a minimal amount of market orientation” (Kohli & Jaworski, 1990, p. 15). Thus, performance benefits of MO would decrease. For instance, Tencent Weibo and Sina Weibo microblogs were two big social communication tools in China from 2010 to 2013. However, in 2014, Tencent announced that it would integrate its Weibo team with its news team, and its Weibo department was removed (China’s Press and Publication Newspaper, 2014). Meanwhile, Sina Weibo has been developing. In the first quarter of 2017, Sina Weibo had 340 million monthly active users and achieved revenue of \$1.37 billion (The 21st Century Business Herald, 2017). Sina Weibo has become the one of the largest independent social media companies (The 21st Century Business Herald, 2017). Why did two Weibo have different performance condition? Relying on a large Tencent QQ user base, Tencent Weibo had no motivation to discover new potential opportunities, applications and functions for users. In contrast, Sina Weibo dared to take risks and developed new application to satisfy volatile and changing customer needs and performed better. As illustrated by these examples, EO may be more appropriate for highly uncertain environments characterizing emerging economies (Maatoofi & Tajeddini, 2011). Overall:

**H1b** In emerging economies, the impact of EO on performance is stronger than that of MO.

Further, “firms with different strategic orientations have inherently dissimilar adaptability and adopt different operational procedures, activities, and marketing efforts” (Atuahene-Gima & Ko, 2001: 59). Li and colleagues (Li et al., 2008) suggested that an appropriate alignment between firm strategic orientation and market positioning is essential for higher performance.

The marketing literature posits that MO provides a firm with sensitive market intelligence for superior performance (Day, 1994; Hult & Ketchen, 2001). The effectiveness of MO comes from customer satisfaction and loyalty because of intelligence gathering, disseminating, and responding market intelligence mechanisms (Kohli & Jaworski, 1990). First, for intelligence gathering mechanisms, better-developed market mechanisms may reduce transaction costs (Meyer et al., 2009; Williamson, 1985) and enhance the efficiency of finding and grasping market information for higher MO performance (Foxall, 1984) in developed economies. However, turbulent environments may increase information asymmetries and make it hard to collect information about customer needs and preferences, which interfere with existing activities, and eventually weaken the performance of MO. Second, in low uncertainty markets, for disseminating and responding to market intelligence mechanisms, organizational departments may coordinate efficiently to react to mature market needs and effectively communicate in the organization to disseminate and respond to market information. On the contrary,



facing higher risks in emerging economies (Meyer, 2001), the channels of disseminating and responding to new ideas from market are typically blocked. In general, operations centered on MO involve more certainty and less risk, which may have higher performance in developed than emerging economies (Boso, Story, & Cadogan, 2013; Matsuno et al., 2002). Overall:

**H2a** The impact of MO on performance is stronger in developed economies than that in emerging economies.

EO is viewed as a selection mechanism that engenders exploratory and risk-taking behaviors (Covin & Slevin, 1989; Liu, Ding, Guo, & Luo, 2014). Firms with strong EO are characterized by proactive, risk taking behaviors, which proactively seize opportunities on the basis of technology innovation or discover novel customer needs in the marketplace (Lumpkin & Dess, 1996; Li, Peng, & Macaulay, 2013; Miller, 1983). For firms with strong EO, high uncertainty environments in emerging economies involve more opportunities that may result in higher performance (Atuahene-Gima & Ko, 2001; Li et al., 2006, 2013). Rosenbusch and her associates (Rosenbusch et al., 2013) suggested that “EO has a further advantage in a dynamic environment” (p. 637). Conversely, in relatively stable environments, where there is little need for proactive, risky strategies, firms may focus on exploiting rather than exploring customer needs because of stable demand (Hitt, Ireland, Camp, & Sexton, 2001; Wiklund & Shepherd, 2003). Therefore:

**H2b** The impact of EO on performance is stronger in emerging economies than that in developed economies.

## Resource condition as a contingency

The RBV focuses on strategic resources heterogeneity and immobility as the source of sustained competitive advantage (Barney, 1991; Newbert, 2007). The RBV suggests that firm-specific resources would drive strategy when identifying the internal strength and weakness of the firm (Yamakawa et al., 2008). Entrepreneurs and managers implement strategic orientations to properly utilize firm resources and achieve superior performance (Gatignon & Xuereb, 1997). While there are numerous ways to measure firm resource base, a straightforward and observable measure that is at the immediate disposal is firm size (Cao, Gedajlovic, & Zhang, 2009). It is one of the most important structural characteristics of firm resource base (Lee & Chen, 2009) and market power (Beard & Dess, 1981). Thus, firm size “as a proxy for firm resources” (Bonaccorsi, 1992, p. 623) may significantly impact the relationship between strategic choices and performance outcomes (Chen & Hambrick, 1995; Liu, 1995).

Specifically, large firms possess a large pool of resources (e.g., personnel, financial) to simultaneously employ MO and EO and to mitigate organizational inertia (Zachary, McKenny, Short, Davis, & Wu, 2011). Thus, large firms can adopt and implement a “marketing concept” to a greater degree than small firms (Liu, 1995). They can more efficiently leverage MO, thus significantly enhancing performance. However, because of heavy organizational rigidities (Leonard-Barton, 1992), the direct impact of strategic

orientation on performance of large firms is different. It may be more difficult for senior managers of large firms, which tend to be more hierarchical and bureaucratic, to break the rules, formulate new work processes and replace the old ones (Calof, 1994), which reduces the effectiveness of proactiveness in achieving competitive advantage. Meanwhile, heavy bureaucracy in large firms often results in an unclear division of responsibility in the field of innovation increasing innovation risks. All of these may reduce the effectiveness of EO in large firms.

**H3a** In large firms, the impact of MO on performance is stronger than that of EO.

Compared with large firms, small firms have insufficient resources (Calof, 1994). Thus, they face higher risks in market search and production efficiency (Lee & Chen, 2009), which reduces the benefits of MO. However, the advantage of small firms is that they are more flexible than large firms. Facing intense challenges such as high uncertainty markets, small firms may respond to potential needs quickly by innovating new products faster (Aragón-Sánchez & Sánchez-Marín, 2005; Tan, 1996), which strengthens the effect of EO. Further, small firms in resource-constrained contexts have less organizational inertia and have more organizational flexibility to gain competitive advantage of mitigating risks when leveraging EO (Wiklund & Shepherd, 2003, 2011). Thus, small firms may more effectively leverage EO to swiftly innovate to meet the needs of market or technology and to obtain more returns on investment.

**H3b** In small firms, the impact of EO on performance is stronger than that of MO.

## External institutions + internal resources

In this section, we extend the contingency perspective by integrating the IBV and the RBV to explore how firms leverage EO and MO to achieve superior performance. Donaldson (2008) noted that organizations needed to maximize both internal organizational effectiveness and external legitimacy support.

The IBV suggests that organizations are embedded in the institutional environments (Peng et al., 2009; Yamakawa et al., 2008). Large firms with a strong EO in developed economies may leverage sufficient resources to develop novel innovations for potential market demand more efficiently. This is because complete market system and property rights protection provide sufficient innovation resources to invest more and to introduce more opportunity-seeking behavior in entrepreneurial activities. Further, large firms have more legitimacy and social ties, resources that enable better implementation of EO (Zimmerman & Zeitz, 2002). While small firms with strong EO in developed economies suffer from resource shortage, they also lack legitimacy and social ties (Su et al., 2011).

**H4a** In developed economies, the impact of EO on performance is stronger for large firms than for small firms.

Compared with developed economies, in emerging economies the market system and property rights protection are incomplete, customer needs are uncertain, and economic growth is rapid (Hitt et al., 2000). Under such conditions, large firms are



prone to satisfy rather than explore market needs. Meanwhile, because of heavy organizational rigidities, large firms may not grasp market opportunities well and may be reluctant to undertake high-risk activities (Leonard-Barton, 1992). All the reasons discussed above may reduce the effectiveness of large firms' EO in emerging economies. Small firms may leverage their flexibility to move into new markets and grasp more opportunities quickly and effectively, which can quickly build competitive advantages in new markets (Li et al., 2008). Furthermore, small firms have a flat hierarchy, which enables them to be more entrepreneurial in risk-taking. Thus, an entrepreneurial strategy is more effective for small firms than for large firms.

**H4b** In emerging economies, the impact of EO on performance is stronger for small firms than for large firms.

Furthermore, the effectiveness of leveraging MO *simultaneously* depends on market institutions and internal organization resource endowments. In developed economies, more complete market mechanism ensures that large firms with a strong MO may utilize their market reputation more efficiently to expand their market share, use sufficient resources to more quickly respond to current customer demands, and more effectively coordinate internal activities to strengthen their market competitiveness. Further, in developed economies, there are little changes and opportunities that are difficult to detect. Thus, large firms with a strong MO may make best use of resources to continuously search market needs, keep their market power based on deep relationships with customers, and overcome organization rigidities. For example, in the UK (a developed economy), Liu (1995) showed that small firms adopt MO to a lesser extent than large firms. However, compared to large firms, small firms with MO face resource shortages and bear high costs of strengthening their market influence, which reduce the effectiveness of MO. Moreover, small firms with MO lack legitimacy and social ties that would enable them to respond to market information timely and quickly.

**H5a** In developed economies, the impact of MO on performance is stronger for large firms than for small firms.

Large firms have more resources and heavier organizational rigidities than small firms (Leonard-Barton, 1992). Large firms with a strong MO may have a disadvantage in quickly finding and grasping new opportunities in uncertain markets. However, in emerging economies, small firms may have an advantage in implementing MO because they may be able to quickly develop capabilities to respond to changing market demands (Li et al., 2006; Pleham, 2000). Fast change of market demands reduces benefits of the resources used only to meet current customer needs. In contrast, the strategy literature has long recognized flexibility as a source of competitive advantage of small firms (Alpkan, Yilmaz, & Kaya, 2007). Thus, small firms may overcome the size- and efficiency-related advantages of larger-scale firms (such as market power and economies of scale) and have stronger flexibility to grasp small and uncertain opportunities in time by implementing an MO strategy in emerging economies (Slater & Narver, 1994). Overall:

**H5b** In emerging economies, the impact of MO on performance is stronger for small firms than for large firms.

## Methods

### Literature search and selection criteria

To ensure the representativeness and completeness of our meta-analysis, we used a three-stage sampling procedure to identify studies for scholarly articles, conference proceedings, book chapters, dissertations, and working papers to be included. In the first stage, we conducted an electronic search for EO-related and MO-related articles in three databases (ABI/Inform, EBSCOhost, and ISI Web of Knowledge) for the papers published from 1983 to 2012.<sup>1</sup> The choice of starting year is explained by the fact that the concept of EO was first proposed in 1983 (Miller, 1983). We used the following search terms: “entrepreneurial orientation,” “EO,” “entrepreneurial proclivity,” “strategic posture,” “entrepreneurial posture,” “corporate entrepreneurship,” “market orientation,” “MO,” and “strategic orientation” in the title, abstract, and text.

Second, we scanned the tables of contents of the following management, marketing, and entrepreneurship journals: *Academy of Management Journal (AMJ)*, *Administrative Science Quarterly (ASQ)*, *Asia Pacific Journal of Management (APJM)*, *Entrepreneurship Theory and Practice (ETP)*, *Journal of Business Venturing (JBV)*, *Journal of International Business Studies (JIBS)*, *Journal of Marketing (JM)*, *Organization Science (OS)*, and *Strategic Management Journal (SMJ)*. Third, we checked the reference sections of all the articles used in several key EO and MO meta-analyses (Cano et al., 2004; Ellis, 2006; Kirca et al., 2005; Liao et al., 2011; Rauch et al., 2009; Rosenbusch et al., 2013; Shoham et al., 2005) to identify any studies that we might have overlooked in the previous stage.

In this meta-analysis, we attempt to unveil the differences between the impact of EO and MO on performance, thus studies are selected for inclusion on the basis of five criteria. First, studies should assess performance at the organizational level, which is viewed as the performance effects of EO and MO for separate legal entities, to ensure a common level of analysis. Second, studies have to report sample sizes, reliabilities of the constructs, and correlation coefficients from different samples (Hunter & Schmidt, 2004). Third, since we want to investigate the influence of different contingency variables, the articles have to report the country of data collection and the number of firm employees or total sales. Fourth, EO and MO have to be associated with strategy-making process at organizational level. Finally, the overlapping samples (i.e., identical samples or similar samples from the same data collection) are included only once per effect size by choosing the study with the largest number of firms (Rosenbusch et al., 2013).

This process yielded 83 EO and 77 MO samples from the studies that appeared between 1983 and 2016 (inclusive). Our meta-analysis builds on samples from published and unpublished studies focusing on EO-performance and MO-performance links in different contexts. For the full list of studies included in this meta-analysis, please see Tables 1 and 2.

<sup>1</sup> The first literature search was conducted in May 2012. Moreover, we conducted three additional searches in December 2012, June 2013, and January 2017.

**Table 1** EO samples (83) included in the meta-analysis

Citation	Journal	County	Coefficient	Number of firms	Citation	Journal	County	Coefficient	Number of firms
Andersen, 2010	IJEBR	Sweden	.14	155	Liu et al., 2014	APJM	China	.16	308
Atuahene-Gima & Ko, 2001	OS	Australia	.03	120	Lumpkin & Dess, 2001	JBV	The US	.205	94
Avlonitis, Salavou, 2007	JBR	Greece	.275	149	Luo, Sivakumar, Liu, 2005	JAMS	China	.24	233
Baker & Sinkula, 2009	JSBM	The US	.29	88	Menguc, Auh, Ozanne, 2010	JBE	New Zealand	.06	150
Barrett, Weinstein, 1999	ETP	The US	.344	142	Merlo, Auh, 2009	ML	Australia	.186	112
Becherer, Maurer, 1998	ETP	The US	-.18	215	Messersmith, Wales, 2011	ISBJ	The US	.13	119
Boso et al., 2013	IBR	The UK	.37	212	Miller, 1983	MS	The US	.085	97
Casillas, Moreno, Barbero, 2010	FBR	Spain	.137	317	Mu & Di Benedetto, 2011	RDM	China	.46	348
Chandrakumara, Zoysa, Manawaduge, 2011	IJmgmt	Sri Lanka	.24	204	Naman, Slevin, 1993	SMJ	The US	-.15	82
Chaston, Sadler-Smith, 2011	BIM	The UK	.25	137	O'Cass & Ngo, 2011	IMM	Australia, Vietnam	.27, .34	300, 259
Chun, Hsu, Tan, Laosirihongthong, Leong, 2011	IJPR	Southeast Asia	.387	165	Renko, Carsrud, Brännback, 2009	JSBM	The US, Finland, Sweden	.08	85
Clercq, Dimov, Thongpapanl, 2010	JBV	Canada	.32	232	Rhee, Park, Lee, 2010	T	South Korea	.415	333
Clercq, Sapienza, Crijs, 2005	SBE	Belgium	.29	92	Richard, Barnett, Dwyer, Chadwick, 2004	AMJ	The US	.12	153
Covin & Slevin, 1989	Frontiers	The US	.39	76	Rodrigues, Raposo, 2011	CJAS	Portugal	.38	212
Covin, Green, Slevin, 2006	ETP	The US	.2	110	Sarkar, Echambadi, Harrison, 2001	SMJ	The US	.32	182
Covin & Slevin, 1989	JMS	The US	.1	91	Simon, Stachel, Covin, 2011	NEJE	The US	.17	127
Cruz, Nordqvist, 2012	SBE	Spain	.19	882	Simsek, Heavey, Veiga, 2010	SMJ	Ireland	.24	129
Dess, Lumpkin, Covin, 1997	SMJ	The US	.1	32	Simsek, Lubatkin, Veiga, Dino, 2009	JBR	The US	.12	495

Table 1 (continued)

Citation	Journal	County	Coefficient	Number of firms	Citation	Journal	County	Coefficient	Number of firms
Frank, Kessler, Fink, 2010	SBR	Austria	.05	85	Slater, Narver, 2000	JBR	The US	.167	53
Frihsammar, Andersson, 2009	JIE	Sweden	.132	188	Stam, Elfring, 2008	AMJ	Netherlands	.38	87
George, Woodjir, Khan, 2001	ERD	The US	-.17	70	Su et al., 2011	JSBM	China	.496	223
Grande, Madsen, Borch, 2011	ERD	Norway	.445	168	Tajeddini, 2010	TM	Switzerland	.361	156
Griffith, Noble, Chen, 2006	JR	The US	.43	269	Tang, Tang, 2012	APIJ	China	-.35	155
Guo, Tang, Su, 2014	APIJ	China	.22	116	Tang, Tang, Marino, Zhang, Li, 2008	ETP	China	.27, -.1	185, 164
Hakala, 2011	JEC	Finland	.29	164	Urban, 2008	JDE	South Africa	.34	315
Hughes, Hughes, Morgan, 2007	BIM	The UK	.203	211	Wales, Patel, Lumpkin, 2013	JMS	The US	.22	173
Hult et al., 2005	IMM	The US	.47	181	Wang, 2008	ETP	The UK	.093	213
Hult, Snow, Kandemir, 2003	JNmgmt	The US	.3	764	Wang, Mao, Archer, 2012	ECRA	China	.035	128
Jantunen, Nummela, Puumalainen, Saarenketo, 2008	JWB	Finland	.287	299	Wiklund & Shepherd, 2003, 2005	SMJ, JBV	Sweden	.34, .235	384, 413
Kemelgor, 2002	ERD	The US	.33, .26	86, 91	Yang, Zhou, Zhang, 2015	APIJ	China	.227	108
Knight, Cavusgil, 2004	JIBS	The US	.32	203	Yu, 2012	AJBM	China	.21	181
Lee, Lee, Pennings, 2001	SMJ	South Korea	.47	137	Zachary et al., 2011	JAMS	The US	.042	780
Leekpai, Jaroenwisian	IJBSS	Thailand	.515	212	Zahra, 2008	JSM	The US	.13	457
Li, 2005	APIJ	China	-.17	181	Zahra, Neubaum, 1998	JDE	The US	.19	228
Li, Sheng, 2011	IMM	China	.025	289	Zampetakis, Vekini, Moustakias, 2011	SIJ	Greece	.324	48
Li, Huang, Tsai, 2009	IMM	China (Taiwan)	.526	165	Zhang, Bruning, 2005	IJEER	Canada	.348	161
Li et al., 2010	JMS	China	.344	140	Zhao et al., 2011	ETP	China	.22	607

Table 1 (continued)

Citation	Journal	County	Coefficient	Number of firms	Citation	Journal	County	Coefficient	Number of firms
Li et al., 2008	JSBM	China	.163	213	Zhou & Li, 2007	JWB	China	.325	775
Lin, Peng, Kao, 2008	IJManpower	China (Taiwan)	.417	333	Zhou et al., 2005	JMktg	China	.44	350
Lisboa, Skarmeas, Lages, 2011	IMM	Portugal	.43	254					
Hughes, Hughes, Morgan, 2007	BJM	The UK	.203	211					

*AJBM*, African Journal of Business Management; *AJM*, Africa Journal of Management; *AMJ*, Academy of Management Journal; *APJM*, Asia Pacific Journal of Management; *BJM*, British Journal of Management; *CJAS*, Canadian Journal of Administrative Sciences; *ECRA*, Electronic Commerce Research and Applications; *EMJ*, European Journal of Marketing; *ERD*, Entrepreneurship and Regional Development; *ETP*, Entrepreneurship Theory and Practice; *FBR*, Family Business Review; *IBR*, International Business Review; *IJBSS*, International Journal of Business and Social Science; *IJEER*, International Journal of Entrepreneurial Behaviour and Research; *IJMngmt*, International Journal of Management; *IJManpower*, International Journal of Manpower; *IJRM*, International Journal of Research in Marketing; *IJPR*, International Journal of Production Research; *IJSJM*, International Journal of Service Industry Management; *IMM*, Industrial Marketing Management; *IMR*, Industrial Marketing Management; *ISB*, International Small Business Journal; *JAAB*, Journal of American Academy of Business; *JAMS*, Journal of the Academy of Marketing Science; *JBE*, Journal of Business Ethics; *IBR*, Journal of Business Research; *JBV*, Journal of Business Venturing; *JDE*, Journal of Developmental Entrepreneurship; *JEC*, Journal of Enterprising Culture; *JGM*, Journal of Global Marketing; *JIBS*, Journal of International Business Studies; *JIE*, Journal International Entrepreneurship; *JMngmt*, Journal of Management; *JMS*, Journal of Management Studies; *JPIM*, Journal of Product Innovation Management; *JSBM*, Journal of Small Business Management; *JSMngmt*, Journal of Strategy and Management; *JSMktg*, Journal of Strategic Marketing; *JR*, Journal of Retailing; *JSBM*, Journal of Small Business Management; *JSM*, Journal of Strategy and Management; *JWB*, Journal of World Business; *MD*, Management Decision; *MIR*, Management International Review; *ML*, Marketing Letters; *MS*, Management Science; *NEJE*, New England Journal of Entrepreneurship; *OS*, Organization Science; *RDM*, R&D Management; *SBE*, Small Business Economics; *SBR*, Schmalenbach Business Review; *SCM*, Supply Chain Management: An International Journal; *SI*, The Service Industries Journal; *SJM*, Scandinavian Journal of Management; *SMJ*, Strategic Management Journal; *T*, Technovation; *TM*, Tourism Management

Table 2 MO samples (77) included in the meta-analysis

Citation	Journal	Country	Coefficient	Number of firms	Citation	Journal	Country	Coefficient	Number of firms
Alpkan et al., 2007	JSBM	Turkey	.57	312	Lin, Peng, Kao, 2008	IJM	China (Taiwan)	.412	333
Atuahene-Gima & Ko, 2001	OS	Australia	.24	120	Luo, Sivakumar, Liu, 2005	JAMS	China	.03	233
Atuahene-Gima, Slater, Olson, 2005	JPIIM	The US	.25	175	Luo, Zhou, Liu, 2005	JBR	China	-.03	218
Augusto, Coelho, 2009	IMM	Portugal	.307	89	Matsuno et al., 2002	JAMS	The US	.32	264
Baker, Sinkula, 2005, Baker & Sinkula, 2009	JPIIM, JSBM	The US	.15	243	Maydeu-Olivares, Lado, 2003	IJISIM	EU	.36	264
Barrett, Weinstein, 1999	ETP	The US	.4771	142	Menguc, Auh, 2008	IMM	Australia	.49	104
Bechter, Maurer, 1998	ETP	The US	.17	215	Merlo, Auh, 2009	ML	Australia	.235	112
Boso et al., 2013	IBR	The UK	.29	212	Morgan, Vorhies, Mason, 2009	SMJ	The US	.11	108
Cheng, Krumwiede, 2012	T	China (Taiwan)	.2	235	Mu & Di Benedetto, 2011	RDM	China	.43	348
Chung, 2012	IMR	New Zealand	.248	100	Narver & Slater, 1990	JMktg	The US	.3454	371
Davis, Babakus, Englis, Pett, 2010	JSBM	The US	.156	155	Narver, Slater, MacLachlan, 2004	JPIIM	The US	.513	41
De Luca, Verona, Vicari, 2010	JPIIM	Italy	.32	50	O' Cass & Ngo, 2011	IMM	Australia, Vietnam	.21, .29	300, 259
Dibrell, Craig, Hansen, 2011	JSBM	The US	.27	229	Paladino, 2008	JPIIM	The US	.3	211
Ellinger, Ketchen, Hult, Elmadağ, Richey, 2008	IMM	The US	.61	83	Pelham, 1999	JBR	The US	.29	229
Ellis, 2005, 2010	EJM, MIR	China (Mainland, Hong Kong)	.102, .18	57,155	Renko, Carsrud, Brännback, 2009	JSBM	The US, Scandinavia	.16	85
Farrell, 2000	AJM	Australia	.326	268	Rhee, Park, Lee, 2010	T	South Korea	.425	333
Frishammar, Andersson, 2009	JIE	Sweden	.264	188	Rose, Shoham, 2002	JBR	Israel	.205	124
Ge, Ding, 2005	JGM	China	.221	371	Selnes, Jaworski, Kohli, 1996	SJM	The US, Scandinavia	.34, .21	172, 230
Gray, Matear, Boshoff, Matheson, 1998	EJM	New Zealand	.1234	490	Sin, Tse, Yau, Chow, Lee, 2003	EJM	China (Mainland, Hong Kong)	.45, .253	265, 199



Table 2 (continued)

Citation	Journal	Country	Coefficient	Number of firms	Citation	Journal	Country	Coefficient	Number of firms
Green, McCaughey, Casey, 2006	SCM	The US	.18	80	Slater, Narver, 2000	JBR	The US	.362	53
Grewal, Tansuhaj, 2001	JMktg	Thailand	.19	120	Snoj, Milfelner, Gabrijan, 2007	CJAS	Slovenia	.183	759
Harris, Ogbonna, 2001	JBR	The UK	.3259	322	Sorensen, Madsen, 2012	IMR	Denmark	.287	249
He, Wei, 2011	IBR	China	.221	230	Taylor, Kim, Ko, Park, Kim, Moon, 2008	IMM	South Korea	.107	216
Hsieh, Tsai, Wang, 2008	IMM	China (Taiwan)	.527	112	Tsai, Chou, Kuo, 2008	IMM	China (Taiwan)	.35	107
Hult, Hurley, Knight, 2004	IMM	The US	.183	181	Vazquez, Santos, Alvarez, 2001	JSMktg	Spain	.342	174
Hult, Snow, Kandemir, 2003	JMngmt	The US	.33	764	Wei, Lau, 2008	JIBS	China	.25	600
Jaw, Lo, Lin, 2010	T	China (Taiwan)	.58	136	Wei, Morgan, 2004	JPIM	China	.38	110
Kaya, Seyrek, 2005	JAAB	Turkey	-.14	91	Wu, 2004	TM	China (Taiwan)	.359	115
Knight, Cavusgil, 2004	JIBS	The US	.49	203	Yannopoulos, Auh, Menguc, 2012	JPIM	Canada	.322	216
Langerak, 2001	IJRM	Netherlands	.23	72	Zachary et al., 2011	JAMS	The US	.287	780
Langerak et al., 2004	RDM	Netherlands	.28	126	Zachary et al., 2011	FBR	The US	.85	224
Ledwith, O'Dwyer, 2009	JPIM	Ireland	.285	106	Zahra, 2008	JSMngmt	The US	.19	457
Li, 2005	APJM	China	.15	181	Zhang, Duan, 2010	MD	China	.474	227
Li et al., 2006	APJM	China	.315	274	Zhang, Bruning, 2010	IJEER	Canada	.182	161
Li et al., 2010	JMS	China	.395	140	Zhou, Li, Zhou, Su, 2008	SMJ	China	.18	180
Li et al., 2008	JSBM	China	.344	213	Zhou et al., 2005	JMktg	China	.07	350

See notes for Table 1

## Coding and measures

Prior to the analysis, we coded the studies for five key constructs: institutional differences (measured by country), resource differences (measured by number of employees or total sales), EO, MO, and performance (see Table 3). There has been a debate about the dimensionality of EO and MO. For example, Miller (1983) and Covin and Slevin (1989) identified three dimensions of EO: innovativeness, proactiveness, and risk taking. Lumpkin and Dess (1996) added two more dimensions: autonomy and competitive aggressiveness. In our meta-analysis, we coded an overall value of EO per study based on a unidimensional construct<sup>2</sup> (Rauch et al., 2009; Rosenbusch et al., 2013), and we did the same for MO (Cano et al., 2004) (see Table 3).

We coded two moderators related to institutions and resources. For institutions, we coded country into two categories (developed or emerging economy) based on the degree of economic development (United Nations Development Programme, 2010). Kirca et al. (2011) used this classification method. Any country that Hoskisson et al., (2000) classified as an emerging economy was coded by us as an emerging economy; otherwise a country would be regarded as a developed economy. Second, we coded firm size into two archetypes (large or small) based on the number of people employed or total sales. A firm was coded as small when the number of employees was lower than 500, or total sales were lower than \$100 million; otherwise a firm would be coded as large (Calof, 1994). If a study did not report the average number of employees or firm sales, we sought additional information that would enable us to code the size of the firm. For example, we searched for the terms such as “SME”, “small”, “large”, or mean value/log value of firm size in the correlation matrix.

We adopted *r*-family statistics for the effect sizes since they are scale free (Hunter & Schmidt, 2004). Thus, we recorded zero-order correlation (*r*) between EO, MO, and performance indicators, eliminating the influences of various control variables included in each study. The inter-rater coefficient is over 90%, indicating that the reliability of the coding process is acceptable.

The final EO-related data contain 83 samples from 80 studies with a total sample size of 18,400 firms. The final MO-related data contain 77 samples from 74 studies with a total sample size of 16,967 firms. Overall, 35,367 organizations in 33 countries (22 developed and 11 emerging economies) are covered.

## Meta-analytic techniques

Following recent meta-analyses (Cano et al., 2004; Duran, van Essen, Huegens, Kostova, & Peng, 2018; Ellis, 2006; Kirca et al., 2005; Liao et al., 2011; Mutlu, van Essen, Peng, Saleh, & Duran, 2018; Rauch et al., 2009; Rosenbusch et al., 2013; Shoham et al., 2005), we use correlation coefficient as the effect size for our meta-analysis based on the techniques provided by Hunter and Schmidt (2004). First, we correct the coefficients obtained from each study based on the sample weighted and reliability adjusted averaged correlation coefficient, by dividing the correlation

<sup>2</sup> When studies report more than one correlation coefficient in one article, we integrated these coefficient correlations into a mean score of coefficient.

**Table 3** Definition and measures of construct

Construct	Definition	Sample measures
Entrepreneurial orientation (EO)	The firms' degree of innovation, risk taking, proactiveness (Covin & Slevin, 1989) with respect to "pursuit of emerging market opportunities and the renewal of existing areas of operation" (Hult & Ketchen, 2001, p. 901).	Risk-taking, innovativeness, proactiveness (Covin & Slevin, 1989; Miller, 1983), competitive aggressiveness, autonomous (Lumpkin & Dess, 1996)
Market orientation (MO)	Organizational culture and behavior (Day, 1994; Kohli & Jaworski, 1990) that most effectively and efficiently create superior value for buyers and thus, continues superior performance for the firm (Narver & Slater, 1990, p. 21).	Intelligence generation, intelligence dissemination, responsiveness (Kohli & Jaworski, 1990) Customer orientation, competitor orientation, inter-functional coordination (Narver & Slater, 1990; Slater & Narver, 1995)
Performance	The extent to which organizations meet financial objectives (Venkatraman & Ramanujam, 1986) that consists of objective profitability, growth, and capital market performance dimensions as well as perceived performance measures.	Profitability dimension: ROA, ROE, ROS, operating margins Growth dimension: sales growth, employment growth, and growth in market share Capital market dimension: Tobin's q, stock price premium, market-to-book value, stock returns Perceived performance scales (Wiklund & Shepherd, 2003; Rosenbusch et al., 2013)
Institutional differences	The humanly devised constraints that construct and/or affect embedded organizational behaviors (e.g., EO, MO) that differ from country to country, particularly from distinct economies (Tolbert, David, & Sine, 2011).	Developed economies, emerging economies (Ellis, 2006; Rauch et al., 2009)
Resource differences	The strategic resource heterogeneity and richness as a source of sustained competitive advantage for firms that influence organizational strategy (Rosenbusch et al., 2013).	Large firms, small firms (measured by number of employees or total sales) (Calof, 1994; Cao et al., 2009)

coefficient by the product of the square root of the reliabilities of the two constructs, taking into consideration both sampling error and measurement error (Hunter & Schmidt, 2004). Second, the reliability-corrected effects are transformed into Fisher's z-coefficients in an effort to take account for the skewness of the distribution of sample correlation coefficients (Kirca et al., 2011). Third, we average and weight the z-coefficients by an estimate of the inverse of their variance (N-3) to give greater weights to more precise estimates and reconvert the results into correlation coefficients (Hedges & Olkin, 1985).

After computing the average effect sizes of the total EO/MO-performance linkages and identifying the homogeneous distribution of effect sizes and estimating the likelihood of moderators that explain variability in correlations in studies through the Q-statistics (Hedges & Olkin, 1985; Lipsey & Wilson, 2001), we conduct a set of

subgroup meta-analyses (SMA) based on moderators. When conducting SMA, the overall homogeneous statistic (Q) is divided into two parts: the between-group statistic  $Q_B$  and the within-group statistic  $Q_W$ .  $Q_B$  is the weighted sum of square of each group's mean effect size and indicates a significant heterogeneous effect between categories and the possibility of moderators.  $Q_W$  indicates heterogeneity in each group (Lipsey & Wilson, 2001). To detect and correct for correlations between two constructs that are significant, we calculate a 95% confidence interval. Thus, a confidence interval not including zero indicates a significant effect (Rosenbusch et al., 2013).

Furthermore, we perform a meta-regression to test all moderators (Cooper, Hedges, & Valentine, 2009; Sterne, 2009). In the meta-analytic regression analyses models (MARA; Lipsey & Wilson, 2001), the correlation coefficients between EO, MO, and performance are viewed as the dependent variables. The proposed moderators (country and firm size) are viewed as independent variables (country: developed economies = 1, developing economies = 0; firm size: large firm size = 1, small firm size = 0; the impact of EO on performance = 1, the impact of MO on performance = 0). We categorize study samples into two groups based on one moderator (country or firm size) before conducting the meta-regression. Then, in each group, we test moderator hypotheses by conducting a meta-regression of the other moderator that is viewed as an independent variable (firm size, country, or strategic choice). We use mixed-effects MARA models (Geyskens, Krishnan, Steenkamp, & Cunha, 2009), which attribute variability across effect sizes to between-study differences and firm-level sampling error (as in fixed-effects models) and to a remaining unmeasured random component (as in random effects models).

## Findings

Table 4 summarizes the number of effect sizes (k), sample weighted reliability adjusted average  $\bar{r}$ , total sample size (N), standard errors (SE), 95% confidence interval (95% CI), and Q-value (Q) for overall EO/MO constructs. Table 4 suggests that both EO and MO have a significantly positive impact on performance ( $\bar{r}_{EO} = .30, p < .001; \bar{r}_{MO} = .37, p < .001$ ), which is in line with prior meta-analytic articles. Moreover, based on significant heterogeneity of Q-value, there are moderators of the relationship between EO/MO and performance.

The SMA results in Tables 5 and 6 present single- and multi-level contingencies—the interactions between institutions and resources—between the EO-performance and MO-performance linkages respectively. Furthermore, MARA results are presented in Tables 7 and 8.

**Table 4** Main effects: Meta-analytic results of EO and MO-performance links

	K	N	$\bar{r}^a$	SE	95% CI	$Q(p)$
EO-performance	83	18,400	.30**	.007	.29 to .32	840.50 (.000)
MO-performance	77	16,967	.37**	.008	.35 to .38	1003.98 (.000)

k is the number of effect sizes; N is the total number of sample size;  $\bar{r}$  is the sample weighted reliability adjusted average  $\bar{r}$ ; Q is Cochran's homogeneity test statistic indicating the possibility of moderators; p is the probability of Q

+ $p < .1$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 5** Single contingency: Meta-analytic comparison results of EO- and MO-performance links

	K <sup>a</sup>	N	$\bar{r}^b$	SE	95% CI	Q <sub>W</sub>	Q <sub>B</sub>	Summary of Results
(1) EO in developed economies	56	11,573	.27**	.009	.25 to .29	809.309(.000)	30.874(.000)	H1a: (3) > (1)** supported
(2) EO in emerging economies	27	6827	.36**	.012	.33 to .38			H1b: (2) = (4) unsupported
(3) MO in developed economies	45	9364	.38**	.010	.36 to .40	1000.993(.000)	2.688(.101)	H2a: (3) = (4) unsupported
(4) MO in emerging economies	32	7603	.35**	.012	.33 to .37			H2b: (2) > (1)** supported
(5) EO in large firms	12	2410	.31**	.021	.27 to .35	739.544(.000)	.023(.878)	H3a: (7) > (5)** supported
(6) EO in small firms	59	12,737	.32**	.009	.30 to .33			H3b: (8) > (6)** unsupported
(7) MO in large firms	24	5101	.44**	.014	.41 to .46	765.554(.000)	10.033(.002)	
(8) MO in small firms	29	5479	.37**	.014	.35 to .40			

Q<sub>W</sub> refers to the residual pooled within-groups share of variance with (k-j) degrees of freedom, where k and j denote the number of effect sizes and categories respectively; Q<sub>B</sub> refers to the residual variance between-groups with (j-1) degrees of freedom, and it is the between-group heterogeneity statistic indicating the statistical significance of the categorical moderator mode

+  $p < .1$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 6** Multi-contingencies: Meta-analytic comparison results of EO- and MO-performance links<sup>c</sup>

	K <sup>a</sup>	N	$\bar{r}^b$	SE	95% CI	Q <sub>W</sub>	Q <sub>B</sub>	Summary of Results
(1) EO in developed economies and large size	9	1936	.36 <sup>***</sup>	.023	.32 to .41	274.941(.000)	11.670(.001)	H4a: (1) > (2)** supported
(2) EO in developed economies and small firms	39	7413	.28 <sup>***</sup>	.012	.25 to .30			
(3) EO in emerging economies and large size	3	474	.11 <sup>***</sup>	.046	.02 to .20	410.839(.000)	30.501(.000)	H4b: (3) < (4)** supported
(4) EO in emerging economies and small firms	20	5324	.37 <sup>***</sup>	.014	.35 to .40			
(5) MO in developed economies and large size	15	3121	.50 <sup>***</sup>	.018	.46 to .53	536.704(.000)	42.320(.000)	H5a: (5) > (6)** supported
(6) MO in developed economies and small firms	17	2799	.30 <sup>***</sup>	.019	.27 to .34			
(7) MO in emerging economies and large size	9	1980	.34 <sup>***</sup>	.023	.30 to .38	196.871(.000)	12.273(.000)	H5b: (8) > (7)** supported
(8) MO in emerging economies and small firms	12	2680	.44 <sup>***</sup>	.019	.41 to .48			

+*p* < .1; \* *p* < .05; \*\* *p* < .01; \*\*\* *p* < .001



**Table 7** Meta-analytic regression analysis (MARA) results on “which orientation (EO or MO)”

Predictor variables	Dependent variables: Correlation coefficients			
	H1a Developed economies	H1b: Emerging economies	H3a: Large firm size	H3b: Small firm size
EO	-.432(.000)	.051(.701)	-.216(.207)	-.173(.107)
R <sup>2</sup>	.186	.003	.046	.030
Adjusted R <sup>2</sup>	.178	-.015	.018	.019
F-value	22.666***	.149	1.658	2.650
Results	Supported	Unsupported	Unsupported	Unsupported

+  $p < .1$  \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

**Which orientation?**

“Which orientation?” is an important question raised by Hakala, 2011: 206). In terms of the moderating effects of institutions, the results suggest that both EO and MO have a positive impact on performance in developed and emerging economies. Respectively, in developed economies, significantly positive impact of MO on performance ( $\bar{r}_{MODE} = .38, N = 9364, 95\% \text{ CI} = .36-.40$ ) is much stronger than that of EO ( $\bar{r}_{EODE} = .27, N = 11,573, 95\% \text{ CI} = .25-.29$ ), thus supporting H1a. Furthermore, in emerging economies, the effect of EO on performance ( $\bar{r}_{EOEE} = .36, N = 6827, 95\% \text{ CI} = .33-.38$ ) has no significant difference with the effect of MO on performance ( $\bar{r}_{MOEE} = .35, N = 7603, 95\% \text{ CI} = .33-.37$ ), therefore rejecting H1b. Regarding another moderator, internal resource bases, the results provide evidence to support H3a and the opposite evidence for H3b, thus rejecting H3b. Specifically, no matter what a firm’s resource endowment is, the impact of MO on performance ( $\bar{r}_{MOLarge} = .44, N = 5101, 95\% \text{ CI} = .41-.46$ ;

**Table 8** Meta-analytic regression analysis (MARA) results on “when orientation (EO and MO) should be chosen”

Predictors	EO and performance			MO and performance		
	H2b: Total EO samples	H4a: Developed economies	H4b: Emerging economies	H2a: Total MO samples	H5a: Developed economies	H5b: Emerging economies
Developed economies	-.355(.001)			.100(.388)		
Large firm		.420 (.001)	-.442(.035)		.478(.006)	-.325 (.151)
R <sup>2</sup>	.126	.176	.195	.010	.229	.106
Adjusted R <sup>2</sup>	.115	.161	.157	-.003	.203	.058
F-value	11.706**	11.549**	5.087*	.753	8.901**	2.242
Results	Supported	Supported	Supported	Unsupported	Supported	Unsupported

+  $p < .1$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

$\bar{F}_{MO\text{Small}} = .37$ ,  $N = 5479$ , 95% CI = .35–.40) is larger than that of EO ( $\bar{F}_{EO\text{Large}} = .31$ ,  $N = 2410$ , 95% CI = .27–.35;  $\bar{F}_{EO\text{Small}} = .32$ ,  $N = 12,737$ , 95% CI = .30–.33).

The results of MARA in Table 7 are relatively consistent with the relevant results in Table 5. In developed economies, MO has a significantly stronger impact on performance than EO ( $\beta = -0.432$ ), thus supporting H1a. Moreover, EO may have no stronger impact on performance than MO in emerging economies, and H1b is rejected. However, we find no evidence that the impact of MO on performance is significantly stronger than that of EO in large firms, thus rejecting H3a. We also find that the effect of EO on performance is not stronger than the effect of MO on performance in small firms ( $\beta = -.173$ ), thus rejecting H3b.

Based on the results of SMA and MARA, we conclude that H1a and H3a are supported and the opposite result of H3b is also testified (Table 5), which demonstrate that, in a given institutional or resource environment, organizations have an adaptive or best orientation for superior performance, which answers Hakala's (2011) question of "which orientation" (p. 206).

### When should a particular strategic orientation (EO or MO) be chosen?

This is another important question raised by Hakala (2011). Both EO and MO are broadly acknowledged as facilitating firm performance. When should a firm choose EO or MO? The SMA results indicate that the average effect of MO on performance is not significantly bigger in developed economies than in emerging economies ( $\bar{F}_{MODE} = .38$ , 95% CI = .36–.40;  $\bar{F}_{MOEE} = .35$ , 95% CI = .33–.37), because there is an overlapping 95% CI. Moreover, we obtain an insignificant categorical model ( $Q_B = 2.688$ ,  $p > .1$ ), thus indicating that there is no heterogeneous effect between categories or groups. Therefore, H2a is not supported.

Furthermore, meta-analysis results indicate that EO has a greater impact on performance in emerging than in developed economies ( $\bar{F}_{EOEE} = .36$ , 95% CI = .33–.38;  $\bar{F}_{EODE} = .27$ , 95% CI = .25–.29). With regard to the overall EO, the categorical model testing external institutions is highly significant ( $Q_B = 30.874$ ,  $p < .001$ ). Thus, H2b is supported.

Table 6 reports the SMA results of multi-contingencies (i.e., the interaction of institutions and resources). These results indicate that EO strategies may have stronger positive relationship with performance for large firms ( $\bar{F}_{EODEL\text{Large}} = .36$ , 95% CI = .32–.41,  $N = 1936$ ) than for small firms ( $\bar{F}_{EODES\text{Small}} = .28$ , 95% CI = .25–.30,  $N = 7413$ ) in developed economies, thus supporting H4a. Meanwhile, the results show the evidence that EO strategy may have stronger positive relationship with performance for small firms ( $\bar{F}_{EOEES\text{Small}} = .37$ , 95% CI = .35–.40,  $N = 5324$ ) than for large firms ( $\bar{F}_{EOEEL\text{Large}} = .11$ , 95% CI = .02–.20,  $N = 474$ ) in emerging economies, thus supporting H4b. Regarding H4a and H4b, we conduct a categorical analysis and find a strong moderating EO-performance relationship in developed economies ( $Q_B = 11.670$ ,  $p < .01$ ) and in emerging economies ( $Q_B = 30.501$ ,  $p < .001$ ).

Furthermore, in developed economies, MO-performance link is significantly stronger for large firms ( $\bar{F}_{MODEL\text{Large}} = .50$ , 95% CI = .46–.53,  $N = 3121$ ) than for small firms ( $\bar{F}_{MODES\text{Small}} = .30$ , 95% CI = .27–.34,  $N = 2799$ ), and vice versa in emerging economies ( $\bar{F}_{MOEES\text{Small}} = .44$ , 95% CI = .41–.48,  $N = 2680$ ;  $\bar{F}_{MOEEL\text{Large}} = .34$ , 95% CI = .30–.38,  $N = 1980$ ). Hence H5a and H5b are both supported. Regarding 5a and 5b, we conduct a categorical analysis and find a strong moderating relationship between MO and

performance in developed economies and emerging economies ( $Q_B = 42.320, p < .001$ ;  $Q_B = 12.273, p < .001$ ).

In addition, the MARA results in Table 8 also show no evidence that the impact of MO on performance is stronger in developed economies than that in emerging economies ( $\beta = .1, p > .1$ ), thus rejecting H2a. Moreover, we find evidence that the impact of EO on performance is stronger in emerging economies than that in developed economies ( $\beta = -.355, p < .01$ ), thus supporting H2b. Furthermore, we find that entrepreneurs and managers of large firms in developed economies may choose any of strategic orientations (EO or MO) because of rich resources ( $\beta = .42, p < .01$ ;  $\beta = .478, p < .01$ ). However, in emerging economies, entrepreneurs and managers of small firms may choose EO rather than MO strategy ( $\beta = -.442, p < .05$ ;  $\beta = -.325, p > .1$ ). Therefore, H4a, H4b, and H5a are supported, and H5b is rejected.

Based on the SMA and MARA results, which support H2b, H4a, H4b, H5a, and H5b and reject H2a (see Table 9), we conclude that both adaptive external institutions or internal resources are appropriate for the specific strategic orientation, thus responding to the question “when should it be chosen” (Hakala, 2011, p. 206).

## Discussion

### Contributions

Overall, three contributions emerge. First, our primary contribution lies in identifying the differences between EO and MO. Although scholars realized that EO and MO represent two different logics and the frame-breaking activities of EO have a different influence on firm performance compared with the incremental activities of MO, to the best of our knowledge, our article is the first that empirically compares them. Highly turbulent and full of opportunities, emerging economies are the context in which the benefits of EO are better. In developed economies, MO is more appropriate. However, independent of firm resource base or size, the performance contribution of MO is stronger than that of EO because firms may be better able to leverage MO by quickly responding to potential needs with innovating new products fast or by meeting current customer needs on current resources and market positions.

Second, our examination also delineates the conditions under which external institutions or internal organizational resources have the strongest impact on the relationship between strategic orientation (EO and MO) and performance. Therefore, we started to fill an important gap in the strategy, entrepreneurship, and marketing literature concerning Hakala’s (2011) questions: “which orientation is better?” and “when should it be chosen?” Our findings indicate that firms in developed economies may achieve better results by focusing on MO as opposed to EO, while firms in emerging economies may achieve better results by choosing EO rather than MO. Yet, the resource base would make this choice easy. Thus, choosing MO rather than EO has its priorities in firms of all sizes. Overall, our findings point to the important match between the environment and strategic orientation (Tolbert et al., 2011; Volberda et al., 2012).

Third, we reveal the combined effects of institutional environments and firm resource bases on the relationship between strategic orientation and performance. By integrating the IBV and the RBV, we argue that national institutions and firm resource

**Table 9** Main findings between strategic orientation and performance

Hypotheses	Results of SMA	Results of MARA	Main findings
H1a: MO > EO in developed economies	Supported	Supported	In developed economies, MO is an appropriate strategic choice for firms, compared to EO.
H1b: EO > MO in emerging economies	Unsupported	Unsupported	In emerging markets, there is no difference between using EO strategy and MO strategy.
H2a: MO in developed > emerging economies	Unsupported	Unsupported	Findings show that the effect of MO on performance is similar in developed economies and emerging ones.
H2b: EO in emerging > developed economies	Supported	Supported	However, if the firms want to implement EO, emerging economies make the choice more effective.
H3a: MO > EO in large firms	Supported	Unsupported	In large firms, MO rather than EO is an adaptive strategic orientation.
H3b: EO > MO in small firms	Unsupported	Unsupported	The opposite results show that MO has a significant stronger relationship with performance than EO in small firms.
H4a: In developed economies, EO in large > small firms	Supported	Supported	Because of stable and little new opportunities in developed economies, compared to small firms, large ones have more resources from social ties and a level of formalization and are more likely to aggressively develop product-market innovations, risky projects targeted at competition advantage.
H4b: In emerging economies, EO in small > large firms	Supported	Supported	EO is stronger in small firms than large ones in emerging economies.
H5a: In developed economies, MO in large > small firms	Supported	Supported	Because of strong demand in developed economies, compared to small firms, large ones provide the firms enough social ties and legitimacy to meet market needs (i.e., MO) in time.
H5b: In emerging economies, MO in small > large firms	Supported	Unsupported	Because of full of uncertain demand and opportunities in emerging economies, compared to large firms, small ones have more flexibility to gather, disseminate, respond dynamic and turbulent market intelligence or opportunities.

bases may not only separately influence, but also simultaneously affect the effect of MO and EO on firm performance. Thus, this study advances knowledge about linkages between strategic orientations and contingency factors by answering Hakala's (2011) questions under multi-contingency contexts. The results show that the impact of MO on performance is stronger for large firms in developed economies, and MO is an appropriate strategic orientation for small firms in emerging economies. EO is a preferred strategic orientation in developed economies for large firms, while, in emerging economies, the benefits of EO are stronger for small firms than for large firms. Thus, the Hakala's (2011) second question is answered. Overall, our study responds to calls for more integration between the RBV and the IBV in emerging economies (Meyer et al., 2009; Peng et al., 2009; Yamakawa et al., 2008).

### Managerial implications

Overall, increasing the knowledge of the effect of alternative strategic orientation with more contingent factors can help entrepreneurs and managers understand the most suitable orientation for specific situations for superior performance. First, when facing a complex and highly uncertain market environment that may include more opportunities (characteristic of emerging economies), entrepreneurs and managers in emerging economies may need to leverage the role of EO, while entrepreneurs and managers in developed economies may need to focus on an alternative strategy centered on MO.

Second, based on results that show that internal resource bases may differently influence the effectiveness of EO or MO, entrepreneurs and managers can choose a suitable orientation according to a firm's resource base. Small firms could take an effective EO or MO strategy, while implementing an MO strategy is more appropriate in large firms for performance improvement. Importantly, firms need to simultaneously consider the integrative influence of different contingent factors (such as large or small firms in different countries) on the relationship between strategic orientation and firm performance.

### Limitations and future research directions

This study has three limitations that should be resolved in future studies. First, similar to previous meta-analyses, ours is constrained by the nature and scope of the original studies (Hunter & Schmidt, 2004). For instance, we focus only on two fundamental strategic orientations: EO and MO, which represent firms' behaviors to take risks for entrepreneurial activities and collect market information. Other potential strategic orientations, such as learning orientation and technology orientation, are not included in our analysis. Learning orientation, as a firm's propensity to create and use knowledge in order to attain competitive advantage, and technology orientation, as a firm's inclination to introduce or use new technologies, products, or innovations, may be the key enabler of a firm's performance (Hakala, 2011). Given heterogeneities and complexities of different economies and markets, one market effectiveness-based SO may not fit all industries and conditions. Future meta-analyses may need to cast a wider net to cover more types of strategic orientations.

Furthermore, the evidence for relationships between orientations is fragmented, and there is a need for studies investigating the interplay, drivers, conditions, and other effects of three or more orientations simultaneously (Zhou & Li, 2007). For instance,

the dynamic capability perspective stresses firms' capacity to exploit and develop specific capabilities, combine those capabilities with internal or external resources, and further reconfigure resources to achieve competitive advantage with the changing environments (Teece, Pisano, & Shuen, 1997). Future work may need to ask the following question: "When and how does SO affect dynamic learning capability?"

Third, there may be additional contingencies to the relationship between strategic orientation and firm performance, beyond those described above. Coming from the IBV and the RBV, our selection of the basic contingencies is straightforward. But there may be other contingencies that may also tap into institutional or resource variables. Future research may need to include additional institutional factors and resource endowments that capture the relationships between EO/MO and performance. Potential contingency variables include institution-level variables (e.g., individualism and collectivism cultures that may affect managers' decision-making on strategic orientation choice), firm-level variables (e.g., quality and flexibility of resources and organizational structure and culture), and industry-level variables (Noble, Sinha, & Kumar, 2002 suggest different orientations for different industries).

## Conclusion

Our meta-analysis has rigorously examined the important relationships involving external institutions, internal resource bases, EO, MO, and performance with a large number of organizations around the world. We have made significant progress in distinguishing the effects of EO and MO on performance and identifying the conditions under which a particular type of strategic orientation (either EO or MO) would have stronger effects on performance or when each particular orientation should be chosen. We have also identified how an optimal orientation depends on the institutional or resource environment. We believe that it is essential for entrepreneurs and managers to understand and explore important and complex challenges linking strategic orientations with firm performance. In conclusion, this meta-analysis has taken a first step in enabling us to offer more evidence-based advice for entrepreneurs and managers interested in leveraging strategic orientations in order to attain superior performance.

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