



Firm characteristics and capabilities that enable superior performance in recessions

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ABSTRACT

Recessions are recurring events in which most firms suffer severe impacts while others are affected less or may even prosper. Notwithstanding, strategic management scholars have made little progress in understanding the reasons for these differences in performance, particularly in unstable macroeconomic environments such as Latin America. In this study, we link literatures on entrepreneurship and improvisation to create an integrative model that indicates characteristics and capabilities that enable a firm to adapt successfully to the recessionary environment. We use survey data from Brazilian firms on the 2008–2009 global recession, and we find that the firms that have superior performance in recessions are those that had, before the recession, 1) a propensity to recognize opportunities and 2) improvisation capabilities for fast and creative actions. We also find a moderating effect of entrepreneurial orientation.

1. Introduction

Recessions are recurring events as part of economic cycles. The International Monetary Fund has counted more than 120 recessions in just the advanced countries since the 1960s (Claessens & Kose, 2018) and predicts a global recession in 2020 due to the Covid-19 pandemic (IMF, 2020). Latin American countries are even more susceptible to recessions due to their economic reliance on natural resource industries, which are typically subject to boom and bust cycles of global commodities prices (Aguilera, Ciravegna, Cuervo-Cazurra, & Gonzalez-Perez (2017).

Recessions create a scenario of decreased demand, intensified competition, and higher uncertainty (Clark, Varadarajan, & Pride, 1994; Grewal & Tansuhaj, 2001; Parnell, Dent, O'Regan, & Hughes, 2012) in which most firms suffer severe impacts and some shut down; others are less affected or may even prosper (Gulati, Nohria, & Wohlgezogen, 2010; Srinivasan, Lilien, & Sridhar, 2011). Nevertheless, strategic management scholars have made little progress in understanding the reasons for such performance differences and in suggesting how firms should deal with these events (Bamiatzi, Bozos, Cavusgil, & Hult, 2016; Geroski & Gregg, 1997).

A firm's performance in a recession should depend on its initial conditions—before the recession—and on the strategies it follows during the recession (Conti, Goldszmidt, & Vasconcelos, 2015; Latham

& Braun, 2011). We examine those initial conditions—characteristics and capabilities—that lead to superior performance in recessions. We create a model that integrates two concepts that have been separately suggested as important in situations of uncertainty, turbulence, and fast change (similar to the environment created by recessions): entrepreneurship (Ireland, Covin, & Kuratko, 2009; Wright, Hoskisson, Busenitz, & Dial, 2000) and improvisation (Bergh & Lim, 2008; Crossan, Cunha, Vera, & Cunha, 2005).

We test this model using data on Brazilian firms during the 2008–2009 global economic crisis. Brazil has an environment characterized by uncertainty and unpredictability (Pinto, Ferreira, Fleury, & Fleury 2017), and it is Latin America's largest and most diversified economy, which allowed us to investigate the recession in firms from a wide range of industries.

Our paper offers three main contributions to strategy research. First, it advances the nascent business cycle management literature, which should be a focus of scholars (Bromiley, Navarro, & Sottile, 2008). By proposing and testing some pre-recession conditions that enable firms to have superior performance in downturns, we answer a call for investigations on which organizational factors improve profitability in these moments (Bamiatzi et al., 2016). Moreover, our suggested characteristics and capabilities may help practitioners prepare their firms for future recessions or similar types of critical environments.

Second, the paper integrates in a singular framework concepts of

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entrepreneurship and improvisation, which have been only separately associated with contexts of change. For instance, [Anderson, Covin, and Slevin \(2009\)](#) recognize that entrepreneurship has a complex relationship with various other constructs that sometimes can be seen as antecedents, correlates, or outcomes of entrepreneurial activities. Our study enhances the understanding of the similarities and intricate relationship among these concepts.

Third, our paper contributes to the understanding of the Latin American context, an area that has been underrepresented in international scholarship ([Aguinis et al., 2020](#); [Conti, Parente, & Vasconcelos, 2016](#)). The study of recessions is of particular relevance in Latin America's cyclical, unstable economic environment ([Aguilera et al., 2017](#); [Aguinis et al., 2020](#)).

2. Recessions and their consequences to firms

Recessions are recurring events—part of business cycles comprising periods of economic growth followed by periods of economic contraction ([Latham & Braun, 2011](#)). They are technically defined by the International Monetary Fund as a decrease in real (inflation-adjusted) gross domestic product (GDP) for two consecutive quarters ([Claessens & Kose, 2018](#)). Several economic theories try to explain business cycles ([Mian & Sufi, 2010](#)), including the causes and consequences of their recessionary stages ([Parker, 2012](#); [Zarnowitz, 1985](#)), but with a countrywide perspective. In this paper, we take a business perspective and focus on three important consequences of recessions for firms: 1) change in demand patterns, 2) increase in competition, and 3) increase in uncertainty. These factors represent important facets of the organizational environment ([Clark et al., 1994](#); [Grewal & Tansuhaj, 2001](#)) and are particularly prevalent during recessions.

First, people who are unemployed or simply afraid of losing their jobs reduce consumption of products and services from most companies ([Kaytaz & Gul, 2014](#)). However, tend to suffer more those firms whose products are considered discretionary, such as leisure, culture, beauty and luxury, or are highly dependent on credit and can have their purchases postponed, case of durable goods ([Ang, Leong, & Kotler, 2000](#); [Gertler, Kiyotaki, & Queralto, 2012](#)). Conversely, less affected are those companies whose products are considered basic needs—such as housing, health, and food—or those firms that offer less costly substitutes to consumers, who are, momentarily at least, more price sensitive ([Dutt & Padmanabhan, 2011](#); [Hampson & McGoldrick, 2013](#)).

Second, recessions raise the degree of competition in the industry ([Grewal & Tansuhaj, 2001](#)). The contraction in demand generates pressures for firms to cut prices in an attempt to keep sales at regular levels ([Kamakura & Du, 2012](#)), intensifying rivalry in the market ([Porter, 1979](#)). In addition, new demand patterns change relationships and the trust and power balance among competitors, their suppliers, and customers ([Apaydin, 2011](#); [Lamey, Deleersnyder, Steenkamp, & Dekimpe, 2012](#)), which also tends to increase rivalry among industry players.

Third, recessions bring uncertainties to the market ([Latham &](#)

[Braun, 2008](#); [Parnell et al., 2012](#)). Even though the direction of demand and pricing changes is typically known, it is difficult to predict their levels and timing. Given that the amplitude and duration of recessions vary significantly ([Zarnowitz, 1985](#)), firms are not able to foresee how long consumers will delay purchases or how long competitors will postpone price cuts.

3. Theory development and hypotheses

Entrepreneurial activities are usually associated with disruptions in the economy that bring turbulence and complexity to the environment, along with opportunities for new endeavors ([Gupta, MacMillan, & Surie, 2004](#); [Lee, Lee, & Pennings, 2001](#)), just like an economic recession is a situation of crisis that generates uncertainty and changes the normal course of business operations. Similarly, scholars have suggested that improvisation is relevant in turbulent, fast-changing environments. We link the concepts of entrepreneurship and improvisation based on a sequence of entrepreneurial activities proposed by [Zahra, Sapienza, and Davidsson \(2006\)](#). They argued that entrepreneurship involves a sequence of 1) perception of opportunities to productively change existing routines or resource configurations, 2) willingness to undertake such change and 3) ability to implement these changes.

We propose a model that explains successful performance in recessions based on a similar sequence of activities, respectively represented by 1) a firm's propensity to recognize a recession as an opportunity rather than as a threat to its operations, 2) entrepreneurial orientation, which encourages employees to be proactive, innovate, and take risks in promoting change, and 3) improvisation capability to implement changes. In short, we argue that firms that pre-recession have a propensity to recognize opportunities, entrepreneurial orientation, and improvisation capability have superior performance in recessions. These characteristics and capabilities and their relationships are shown in [Fig. 1](#) and described in the following sections.

3.1. Opportunity recognition in recessions

3.1.1. Background and definition

Given the recession scenario of decreased demand, intensified competition, and higher uncertainty, these periods naturally bring a sense of pessimism that usually leads firms to cut costs and investments and reduce their operations. Nevertheless, history has shown that Procter and Gamble, Chevrolet, and Camel flourished during the 1929–1933 Great Depression because of heavy advertisement ([Gulati et al., 2010](#); [Srinivasan, Rangaswamy, & Lilien, 2005](#)).

Firms may choose opposite strategies during recessions, as they can view a recession as a threat or an opportunity ([Latham & Braun, 2011](#)) or at least ambivalently see both a negative and a positive side of the same situation ([Plambeck & Weber, 2010](#)). A firm's approach to the recession depends on their employees having the appropriate cognitive mind-sets ([Haynie, Shepherd, Mosakowski, & Earley, 2010](#); [Ireland](#)

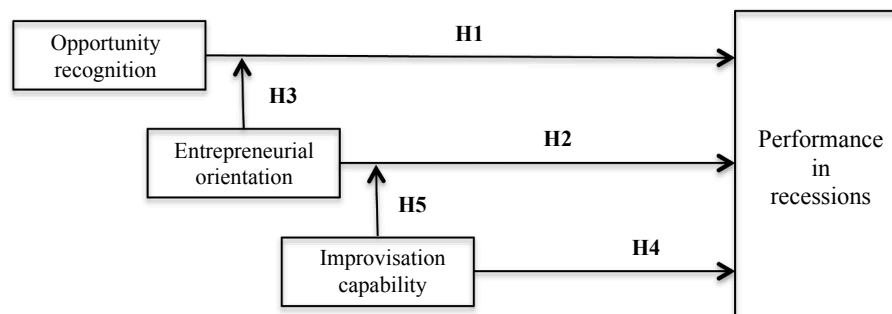


Fig. 1. Theoretical model.

et al., 2009; McGrath & MacMillan, 2000), to identify, process, and apply new knowledge for feasible endeavors (Ireland, Hitt, & Sirmon, 2003; Zhou & Wu, 2010) in a moment of uncertainty (McGrath, 1999).

Opportunities are situations in which new goods, services, raw materials, markets, and methods can be introduced (Phillips & Tracey, 2007; Shane & Venkataraman, 2000). They are not restricted to a discovery, but involve a process of evaluation and elaboration (Lumpkin & Lichtenstein, 2005). Similar to Srinivasan et al. (2005), we define opportunity recognition in a recession as a firm's propensity to recognize opportunities related to the recession. They may arise either directly from changes in demand (Grewal & Tansuhaj, 2001) or indirectly from the difficulties of rivals (Geroski & Gregg, 1997; Parnell et al., 2012).

3.1.2. Hypothesis

Firms that see opportunities in recessions are able to develop new products that capitalize on changed consumer preferences (Ang et al., 2000; Grewal & Tansuhaj, 2001) or modern equipment to reduce production costs (Navarro, Bromiley, & Sottile, 2010; Srinivasan et al., 2005). These new projects can help firms differentiate themselves to overtake competitors, gain market share (Nunes, Drèze, & Han, 2011), and prepare for long-term success (Franke & John, 2011).

Moreover, investments made during recessions have the potential for high return. Considering that most other firms are not investing or are even reducing operations (Geroski & Gregg, 1997; Zarnowitz, 1985), firms can take advantage of the increased availability of undervalued, qualified resources in the market (Gulati et al., 2010), including labor, raw materials, fixed assets, or entire businesses for sale (Bromiley et al., 2008; Latham & Braun, 2011; Mascarenhas & Aaker, 1989). Hence, we advance the following hypothesis:

H1. Opportunity recognition in recessions is positively associated with the change in performance during recessions.

3.2. Entrepreneurial orientation

3.2.1. Background and definition

We define entrepreneurial orientation (EO) as the extent to which firms are innovative, proactive, and risk taking in their behavior and management philosophies (Anderson et al., 2009; Miller, 1983). Innovativeness reflects a firm's tendency to favor change and explore and engage in new ideas and creative processes that may result in new markets, products, or processes (Covin & Slevin, 1989; Lumpkin & Dess, 1996), including an ability to learn from experimentation and trial-and-error initiatives. Proactiveness relates to a firm's proclivity to approach opportunities through active market research that allows first-mover actions to preempt competitors by introducing new products, entering new markets, or aggressively changing competitive tactics (Anderson et al., 2009; Lee et al., 2001). Risk-taking propensity is a firm's willingness to incur large resource commitments to uncertain and novel businesses that have high return potential but also a reasonable chance of costly failure (Lumpkin & Dess, 1996; Wang, 2008; Wiklund & Shepherd, 2003).

3.2.2. Hypotheses

The positive link between EO and performance that has been extensively supported empirically (Anderson et al., 2009; Wang, 2008) also depends on a good fit between a firm's characteristics, strategies, and environmental conditions (Hansen, Deitz, Tokman, Marino, & Weaver, 2011; Wiklund, Patzelt, & Shepherd, 2009). We believe that particular characteristics of recessionary moments, such as uncertainty and intensified competition, strengthen the fit between EO and recessions. First, entrepreneurial firms perform well in uncertain environments partly because they rely on a mind-set that captures benefits from uncertainty (Hitt, Ireland, Camp, & Sexton, 2001; Ireland et al., 2003; McGrath & MacMillan, 2000) and seek competitive advantage by taking risks (Covin & Slevin, 1989; Haynie et al., 2010; Srinivasan et al.,

2005). Second, in moments of intense competition and resource scarcity, firms are more likely to engage in trial-and-error experimentation (Daft & Weick, 1984), an important characteristic of EO's innovativeness that is critical for adaptation to turbulence (Zhou & Wu, 2010). Hence, we propose the following hypothesis:

H2. Entrepreneurial orientation is positively associated with the change in performance during recessions.

Returning to our model in Fig. 1, we claim that in addition to having a direct effect on the change in performance during recessions, EO also moderates the relationship between opportunity recognition and performance. Entrepreneurship involves a perception of opportunities to productively change existing routines or resource configurations as well as a willingness to undertake such change (Zahra et al., 2006). Recognizing an opportunity does not improve performance if the firm is not willing to take action, and make the changes necessary to make it happen (Haynie et al., 2010; Wiklund et al., 2009).

Firms vary in their ability to respond to a perceived opportunity and undertake change (McGahan & Mitchell, 2003; Srinivasan et al., 2005). We argue that this ability depends on a firm's EO, in its three dimensions. Proactiveness is fundamental because firms that are not proactive will not take action to exploit opportunities. Proactive firms anticipate needs and move ahead quickly, even without complete information (Green, Covin, & Slevin, 2008; Lumpkin & Dess, 1996). Innovativeness is essential, as firms that do not favor creative change will not take the steps necessary to exploit opportunities (Ireland et al., 2003). Innovators creatively engage with opportunities offered by evolving environments (Gupta et al., 2004). Finally, risk-taking is important because firms that do not have that propensity will not invest in opportunities whose outcomes are unsure. Recessions' uncertainty increases risk aversion, but in an entrepreneur's cognition, the benefits of opportunities override risk concerns (Muurlink, Wilkinson, Peetz, & Townsend, 2012; Wright et al., 2000). Hence, we advance the following hypothesis:

H3. Entrepreneurial orientation moderates the relationship between opportunity recognition (OPP) and performance such that increased EO strengthens the positive association of OPP with the change in performance during recessions.

3.3. Improvisation capability

3.3.1. Background and definition

Initially considered a way to fix problems resulting from poor planning, improvisation gained popularity as a learning theory in the 1990s (Leybourne, 2007). Such learning is characterized as action guided by intuition in a spontaneous way (Crossan et al., 2005) for a fusion of design and execution in novel productions (Miner, Bassoff, & Moorman, 2001). The concept is appropriate for investigations in contexts of novelty, real-time learning, and tacit knowledge (Bergh & Lim, 2008). As recessions are situations of change and uncertainty in which prior learning is not very useful (Grewal & Tansuhaj, 2001), we deem improvisation an appropriate analysis approach.

We treat improvisation as a capability based on the two dimensions proposed by Crossan et al. (2005): spontaneity and creativity. We define improvisation capability (IC) as the ability to generate a successful, fast response to an unexpected event 1) without prior planning (Miner et al., 2001; Vera & Crossan, 2005)—spontaneity—and 2) through creative adaptation of the resources at hand (Eisenhardt, 1997; Vera & Crossan, 2005)—creativity. These resources might have been intended for one purpose originally and then reconfigured or recombined for a new purpose.

3.3.2. Hypotheses

As described earlier, recessions alter demand patterns, intensify competition, and create uncertainty (Grewal & Tansuhaj, 2001). After

losing their jobs or just feeling insecure during the recession, people delay purchases (Srinivasan et al., 2011) or look for substitutes to products they no longer can afford. In addition, intensified competition provokes new competitor moves that aggravate the scenario of changes. This situation represents a risk to firm survival (Geroski & Gregg, 1997) and demands immediate responses. Without sufficient time to plan, firms have to rely on the spontaneity of improvisation for fast reactions. Moreover, a changing environment becomes less analyzable (Daft & Weick, 1984), which creates further planning difficulties and a stronger need for spontaneity.

In drastic cases, firms' responses to the risk of survival may include closing production sites (Bohman & Lindfors, 1998; Geroski & Gregg, 1997), altering the value of their assets (Li & Tallman, 2011). Firms may need to reconfigure these assets for new uses related to new consumer preferences, for which IC's creativity dimension is helpful. Hence, we propose the following hypothesis:

H4. Improvisation capability is positively associated with the change in performance during recessions.

The association between EO and performance also depends on other firm characteristics (Hansen et al., 2011; Lumpkin & Dess, 1996). EO involves a willingness to undertake changes complemented by an ability to implement them (Zahra et al., 2006), which is possible only when a firm possesses capabilities to successfully exploit recognized opportunities and create value (Ireland et al., 2003). We argue that in recessionary environments, IC is one of the necessary capabilities—fundamental for the implementation of changes in existing routines or resource configurations—that strengthens the positive association between EO and performance.

In stable environments, entrepreneurs can plan carefully before investing, as to increase the probability of better returns and performance. However, in fast-changing environments such as recessions, the need for quick responses leaves no time for full data gathering and meticulous planning before action. Entrepreneurs may have to rely on intuition and judgment to interpret the environment and make decisions with imperfect information (Casson & Godley, 2007; Daft & Weick, 1984; Elbanna, Child, & Dayan, 2012). Indeed, success in entrepreneurial situations is often associated with speed rather than overanalysis (Ireland et al., 2003; Wright et al., 2000), for which IC is helpful (Bingham, 2009). IC's spontaneity dimension, based on intuition skills for fast responses (Crossan et al., 2005; Miner et al., 2001), is fundamental to guarantee a good outcome from these unplanned activities (Ireland et al., 2009) and improve performance.

Creativity, IC's second dimension, is also important for entrepreneurial activities in recessionary environments. Entrepreneurship is based on exploration of novel, poorly understood business domains (Green et al., 2008) following changes in the environment. Knowledge and resources available from the prior situation are not ideal or readily transferable to the new context (Haynie et al., 2010). Moreover, survival pressures do not allow sufficient time for the firm to acquire or develop the appropriate knowledge and resources. Rather, they require recycling or recombining the available knowledge and resources for new uses (Gupta et al., 2004; Ireland et al., 2003; Keil, McGrath, & Tukiainen, 2009). In this sense, IC's creativity dimension, based on an ability to adapt the resources at hand to the new situation, is fundamental to guarantee a favorable outcome and improve performance. Hence, we advance the following hypothesis:

H5. Improvisation capability moderates the relationship between entrepreneurial orientation and performance such that increased IC strengthens the positive association of EO with the change in performance during recessions.

4. Methods

Our hypotheses were tested using data from Brazilian firms on the

2008–2009 global recession, the longest and most severe since the 1929 crash (Crotty, 2009). Brazil is a good setting for our investigation because (1) it has a dynamic and unstable environment, ideal for testing entrepreneurial and improvisation concepts, (2) it was sharply affected by the 2008–2009 recession (Galveas, 2009), accumulating more than 4% GDP contraction (Pochman, 2009) (though most firms recovered relatively quickly, which allowed relevant comparisons by the time of this analysis), and (3) it is Latin America's largest and most diversified economy, which enabled us to study the crisis in firms from a wide range of industries.

Our sample comprises traded and non-traded firms of various sizes and industries. We collected data by sending a questionnaire to firms in the Economática database and those affiliated with a prestigious Brazilian Business School. We developed the questionnaire (Appendix B) in Portuguese, as it is the native language of our respondents. After we made questionnaire adjustments derived from a pretest, we sent it to finance or planning managers in 2011–2012. To address common method bias, we used questions from various sources in different formats—some reverse coded—and spatially separated the items that measured a same construct (Podsakoff, MacKenzie, & Podsakoff, 2012). We explained the purely academic purpose of our research and guaranteed confidentiality.

4.1. Dependent variable

Similar to Srinivasan et al. (2005), we measured change in performance (CHPERF) with five indicators that together represent both short-term and long-term perspectives: cash flow, market share, operating revenue, operating profit, and net profit. Respondents used a Likert-type scale to report how each indicator was affected by the recession. Subjective measures of performance facilitate comparisons across multiple industries and are preferred by respondents to preserve confidentiality (Gruber et al., 2010). They also tend to have high convergent validity with objective measures (Dess & Robinson, 1984).

4.2. Independent variables

We measured opportunity recognition in recession using three items from Srinivasan et al. (2005). We measured entrepreneurial orientation in its three dimensions with 10 items selected from Anderson et al. (2009), Srinivasan et al. (2005), and Covin and Slevin (1989); we adapted them to our context of crisis. We measure improvisation capability with seven items for its two dimensions. We selected and adapted five items from Vera and Crossan (2005). We developed two other items based on arguments by Crossan et al. (2005) and Brown and Eisenhardt (1997).

4.3. Control variables

Our main control variables are firm size, age, exports, industry, and financial slack. Size influences a firm's availability of slack resources and reliance on intuition for improvisation. One questionnaire item measured annual sales. Firm age influences a firm's reliance on improvisation, experience with prior recessions, and availability of resources. One questionnaire item distinguished firms older than five years. Exports are important in our setting, as Brazilian firms with low levels of exports were less affected by the crisis. One questionnaire item measured the importance of exports to the firm's business. Industry influences firms' characteristics, strategies, and performance. Moreover, the recession affected Brazilian manufacturing industries more than service industries. One questionnaire item distinguished firms in manufacturing from services. Financial slack (FINSLACK) resources are important to allow firm survival and entrepreneurial investments. We measured it with one item related to firm debt due during the crisis as a reverse proxy.

Table 1
Descriptive statistics and correlations.

Variables		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Change in performance	R	2.24	0.77	0.87												
2 Opportunity recognition	R	3.23	0.81	0.38	0.78											
3 Entrepreneurial orientation	F	3.38	0.65	0.12	0.37	n/a										
4 Innovativeness	R	3.48	0.86	0.17	0.24	0.76	0.72									
5 Proactiveness	R	3.30	0.77	0.08	0.41	0.86	0.40	0.80								
6 Risk-taking propensity	R	3.37	0.85	0.03	0.14	0.72	0.44	0.45	0.77							
7 Improvisation capability	F	3.72	0.71	0.30	0.21	0.61	0.67	0.38	0.45	n/a						
8 Creativity	R	3.81	0.83	0.24	0.19	0.52	0.53	0.31	0.43	0.93	0.80					
9 Spontaneity	R	3.63	0.87	0.29	0.16	0.54	0.64	0.35	0.39	0.71	0.41	0.78				
10 Age of firm below 5 years	O	0.07	0.26	0.18	0.21	0.14	0.20	0.09	0.04	0.17	0.12	0.21	n/a			
11 Size (Revenues in R\$ million)	O	1690.7	651.8	−0.02	0.07	0.18	−0.02	0.25	0.18	0.03	0.07	−0.05	−0.16	n/a		
12 Industry	O	0.35	0.48	−0.11	0.02	0.11	0.00	0.11	0.16	−0.09	−0.1	−0.04	−0.21	0.23	n/a	
13 Exports	O	0.07	0.05	−0.16	0.05	0.07	−0.01	0.09	0.07	0.01	−0.02	0.06	−0.11	0.23	0.35	n/a
14 Financial slack	O	3.88	1.19	0.39	0.09	−0.12	−0.05	−0.14	−0.08	0.07	0.02	0.14	0.03	−0.03	−0.09	0.00

Notes:

Square roots of AVEs in the diagonal, correlations off-diagonal.

R = Reflective construct; F = Formative construct.; O = Observed indicator.

n/a = Not applicable for formative constructs and their dimensions.

5. Results and discussion

After eliminating repeated responses from the same firm and questionnaires with high concentrations of missing values, our final sample included 91 usable questionnaires. We analyzed our data with partial least squares structural equation modeling (PLS-SEM) using the SmartPLS software (Ringle, Wende, & Will, 2005). PLS-SEM is recommended for analysis of complex models with several latent variables measured by various perceptual items (Kock, Verville, Danesh-Pajou, & DeLuca, 2009), as it allows estimation of measures and causal relationships all at once. In particular, PLS-SEM is suitable when the model uses a combination of formative and reflective measures for latent variables.

5.1. Measurement model

Our reflective constructs (Table 1 and Appendix A) have most indicator loadings (16 out of 21) above the 0.7 threshold (Hulland, 1999) and all average variance extracted (AVE) above the threshold of 0.5. Moreover, all constructs have the square roots of their AVEs higher than the respective correlations between them and all other constructs (Fornell & Larcker, 1981), which supports discriminant validity (Ruiz, Gremler, Washburn, & Carrión, 2008). The second-order constructs entrepreneurial orientation and improvisation capability (Table 1 and Appendix B) have all significant weights with absolute values above or equal to 0.29. Moreover, the maximum variance inflation factor (VIF) is 2.06, indicating acceptable multicollinearity (Diamantopoulos, Riefler, & Roth, 2008). Harman's single-factor test confirmed that the potential extent of common method bias was limited. Furthermore, common method variance is not an alternative explanation to interactions effects (Siemens, Roth, & Oliveira, 2010), which is the case for two of our hypotheses that propose moderation effects.

To corroborate the subjective performance measures, we collected secondary data from the S&P Capital IQ database for 23 companies that have financial reports published in that database (the majority are listed in the Brazilian stock exchange), which accounts for 25% of our sample. For each of these companies, we could obtain quarterly indicators of total revenues, gross profit, EBITDA, and net income. To create an objective measure of our dependent variable (change in performance during the recession period), we created a ratio comparing pre- and post-recession figures. As such, we divided the sum of each figure in the recession period (last quarter of 2008 and first quarter of 2009) by the respective sum in a pre-recession period (last quarter of 2007 and first quarter of 2008) to control for seasonal effects. We winsorized two observations with ratios more than four standard

deviations away from the mean (one for gross profit and one for net income).

We then correlated these ratios with the respective subjective measures. The correlations between subjective and objective measures of change in performance were 45.6% for total revenues, 40.3% for gross profit, 24.2% for cash flow (proxied by EBITDA in the objective measures), and 3.3% for net profit. The correlation between factor scores of all subjective and objective measures (excluding market share, for which we lack an objective counterpart) was 28%. The correlations for total revenues and gross profit are close to those reported by Schilke (2014) in a similar comparison. The lower correlations for net profit should refer to taxes—or interest-related items—and may have two alternative explanations. First, respondents had limited knowledge about their companies' financial flows, especially in a disruptive moment such as a crisis, and failed in evaluating how it affected taxes and interest. Second, respondents correctly eliminated from their answers the impact of those items if they were not a consequence of the crisis. While the subjective evaluation of net profit may be noisy, our argument focuses mostly on the impacts of firms' characteristics on their operational performance and not purely financial aspects. If we focus on the operational performance (i.e., excluding net income), the correlation between factor scores of objective and subjective measures rises to 33%. These results provide evidence of the convergent validity of our dependent variable.

5.2. Structural model

Structural model results are shown in Table 2. Model 1 considers the direct effect of our five control variables: firm size, age, exports, industry, and financial slack. Model 2 adds the direct effects of our three independent variables, and Model 3 includes the moderating effects on performance.

Our PLS-SEM model confirmed three of our five hypotheses. Firms that pre-recession have a propensity to recognize opportunities—not just threats—have superior performance in recessions (H1, $b = 0.34$, $p < 0.01$, Model 2). They can invest in modern equipment to reduce production costs, develop new products that capitalize on consumer preference changes, and differentiate themselves to overtake competitors.

The direct effect of EO on performance (H2) was nonsignificant. One possible explanation is that some focus or inertia may still be necessary, even in moments of turbulence (van Witteloostuijn, Boone, & van Lier, 2003). That is the case in recessions, especially considering their temporary character. In particular, the recession in Brazil, although deep, lasted only two quarters. Firms that engage in too many

Table 2
Results of the PLS structural model analysis.

		Change in performance		
	Related hypothesis	Model 1	Model 2	Model 3
Control variables				
Industry		0.01	0.02	0.03
Size		0.05	0.04	0.01
Age		0.18*	0.06	0.06
Exports		− 0.16***	− 0.18**	− 0.20***
Financial slack		0.40 ***	0.33***	0.26***
Independent variables				
OPP	H1		0.34***	0.37***
EO	H2		− 0.14	− 0.21
IMPR	H4		0.28**	0.23**
Moderating effects				
EO × OPP	H3			0.27**
IMPR × ENTR	H5			− 0.16
R ²		22%	36%	49%
R ² increase (vs. Model 1)			14%	27%

Notes:

Algorithm calculations based on path-weighting scheme.

All calculations based on bootstrapping with 1000 samples and individual sign changes.

* p-value < 10%, ** p-value < 5% *** p-value < 1%.

distinct entrepreneurial projects may change course too often and waste scarce resources before having time to enjoy profits from their investments. This discussion is in line with calls for a balance between exploration and exploitation in entrepreneurship studies (Wang, 2008) and between avoiding and taking financial or competitive risks during recessions (Latham & Braun, 2011; Zona, 2012).

Nevertheless, we confirmed EO's moderation on the effect of OPP on performance (H3, $b = 0.27$, $p < 0.05$, Model 3). The more a firm is proactive and accepts changes and risks to be innovative, the more it will be willing to take action and invest in recognized opportunities, thus improving performance.

We also found superior performance in those firms that have improvisation capability (H4, $b = 0.28$, $p < 0.05$, Model 2) to quickly and creatively adapt resources at hand for new purposes, without extensive prior planning. When firms are at risk of going bankrupt, they need fast responses and have no time to develop or acquire new resources.

However, the moderating effect of improvisation on the relationship between entrepreneurial orientation and performance was not confirmed (H5), possibly for a similar reason to H1's nonsignificant results. Firms still need some inertia, particularly considering the temporary character of the 2008–2009 recession in Brazil. Again, in line with Wang (2008)'s call, we might have found a significant effect using a moderator with a more balanced, simultaneous influence of exploration and exploitation, rather than by using IC, which is biased toward exploration.

6. Conclusions

Recessions are recurring events in which most firms suffer severe impacts, while others are less affected or even prosper. Strategic management scholars have made little progress in understanding the reasons for these differences in performance. We link the literatures on entrepreneurship and improvisation to create an integrative model that indicates characteristics and capabilities that enable a firm to adapt to

the recessionary environment and be successful. Based on survey data for Brazilian firms during the 2008–2009 global recession, we confirm our hypotheses that firms that pre-recession have a propensity to recognize opportunities, not just threats, and improvisation capability to quickly and creatively exploit these opportunities have superior performance in recessions. We also find that entrepreneurial orientation has a moderating effect that increases the positive association between opportunity recognition and performance.

It is important to mention that there are particular environmental scenarios in which our suggestions are more applicable. In a mild recession, when performance reduction is low and there is no immediate risk to survival, firms have time to plan their responses and, thus, there is no need to improvise. However, to address larger-scale demand changes (Grewal & Tansuhaj, 2001) in a severe recession, firms may need new products that cannot be regularly produced with current resources. These new resources will not be acquired in a scenario of decreased profits, reduced credit, and high uncertainty. Therefore, firms need to rely on reconfigurations of resources, in line with improvisation. In addition, performance reduction is more drastic, posing risk to firm survival and requiring immediate action. With no time for careful planning, firms must rely on improvised initiatives to react.

Even in our base scenario of a severe recession, there are some boundary conditions to our suggested view of recognizing the recession as an opportunity and acting entrepreneurially with improvisation for superior performance. First, a combination of offensive and defensive moves may be ideal at times (Gulati et al., 2010). Indeed, preserving cash for short-term survival is important. Firms need to find ways to reduce unnecessary costs in some areas to improve efficiency, while proactively seeking opportunities that may arise based on the new structure of the market. Second, if the firm operates in an industry where changes are common, it may already have the characteristics and formal systems that expedite decision making and allow quick direction changes (Muurlink et al., 2012) so that no improvisation is necessary. Third, the firm may operate in an industry unaffected by the situation, in which case the firm could benefit, gaining profits without needing to act.

Our paper offers three main contributions to strategy research. First, it advances the business cycle management literature, an important and underexplored area (Bamiatzi et al., 2016; Bromiley et al., 2008). By proposing and testing some pre-recession conditions that enable firms to have superior performance in these moments, we extend Latham and Braun's (2011) conceptual framework. Our suggested characteristics and capabilities may also help practitioners prepare their firms for future recessions or other types of turbulent, fast-changing environments.

Second, the paper integrates in a singular framework the concepts of entrepreneurial orientation and improvisation, which have been only separately associated with contexts of change. In doing this, it enhances our understanding of the concepts' similarities and intricate relationships. For instance, Anderson et al. (2009) recognize the complex relationship of entrepreneurship with various constructs sometimes seen as its antecedents, correlates, or outcomes.

Third, the paper contributes to the understanding of Latin American firms, as the study of recessions as well as the investigation of entrepreneurial and improvisation concepts are of particular relevance in cyclical, unstable economic environments, such as that of Latin America.

Our study has a few limitations related to our method—a cross-sectional survey with a longitudinal perspective. Respondents might not remember exactly what happened a few years back and their perceptions can always differ from reality (both regarding the recession's effects and the firm's conditions before it started), although this is typical

of surveys and the use of multiple measures reduces the impact of errors (Kock et al., 2009). Additionally, due to the observational design of our study, we might have an endogeneity problem (Semadeni, Withers, & Trevis Certo, 2014), which impedes causality claims. Hence, our empirical results indicate associations among variables rather than causal relationships.

Other limitations refer to our sample. We had fewer than 100 valid survey responses, a lower than ideal representation of our firms, but this is common in research on emerging countries (Hoskisson, Eden, Chung, & Wright, 2000), and PLS is adequate for such cases (Hair, Ringle, & Sarstedt, 2012; Ringle, Sarstedt, & Straub, 2012). Moreover, our setting included only firms operating in Brazil during one particular recession. While the 2008–2009 crisis in Brazil provides an interesting context for our research, we recommended caution in generalizing these results to firms operating in countries with vastly different business environments and affected by different recessions.

This last limitation leads us to interesting areas for further research. Scholars should examine the adequacy of our model in other recessions and crises with other origins. One such example would be the current Covid-19 situation. A recession created by a pandemic, directly in the “real” economy, may be different from a recession that had its origin in financial markets, such as the 2008–2009 global crisis. As a second

example, it would be interesting to see the results of our suggested characteristics and capabilities in the environment of a crisis whose origin could be directly tackled, as opposed to a drastic situation like a recession—an event whose cause a firm has no control over—that hits suppliers and customers all at once. It would be also interesting to investigate whether the specific environment of certain countries influences the development of the characteristics and capabilities important for performance in recessions. For instance, in emerging countries, whose environments are more dynamic (Hoskisson, Wright, Filatotchev, & Peng, 2013), firms’ exposition to higher turbulence may allow them to develop more improvisational capability than firms from developed countries. Another promising area for future research is examining other factors that may impact firm performance during or after a recession, in line with Latham and Braun (2011) and Conti et al. (2015).

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Appendix A. Measurement items of reflective constructs

Reflective constructs and their items	Load	CR	AVE
Change in performance		0.94	0.76
How much was your firm affected by the recession, in terms of:			
Operating revenue	0.90		
Operating profit	0.94		
Net profit	0.94		
Cash flow	0.89		
Market share	0.65		
Opportunity recognition		0.82	0.60
Particularly about the 2008–2009 recession:			
Our firm’s management treated the downturn more like an opportunity than as a threat.	0.87		
Our plans for the downturn basically involved hunkering down and riding out of the recession. - (R)	0.65		
We viewed this downturn as an opportunity to leapfrog over our competitors.	0.79		
Innovativeness		0.76	0.51
Innovative ideas are well accepted in our firm.	0.71		
Our performance appraisal system rewards people for new ideas and process improvement.	0.78		
Our firm accepts errors as a way of learning.	0.66		
Proactiveness		0.84	0.64
Our firm typically initiates actions which competitors then respond to.	0.60		
Particularly about the 2008–2009 recession:			
We were very proactive in developing plans to counter the downturn.	0.91		
We responded more quickly to the market changes caused by the downturn than our competitors.	0.86		
Risk-taking		0.74	0.60
The top managers of this firm believe that bold strategies are required to achieve our business objectives.	0.69		
In general, people at our firm accept changes promptly.	0.84		
Creativity		0.84	0.64
Our employees know how to improvise when necessary.	0.74		
Our firm has great ability to address new situations through new ideas of using the resources at hand.	0.84		
In our firm, people are encouraged to resolve problems in creative ways.	0.81		
Spontaneity		0.76	0.61
In our firm, actions are always carefully planned before execution. - (R)	0.70		
To respond to unexpected events, our firm encourages balance between established plans and flexibility.	0.86		

Notes:

(R): Item is reverse coded.

CR: Composite reliability.

AVE: Average variance extracted.

All algorithm calculations based on path weighting scheme.

Appendix B. Measurement indices of formative constructs

Formative constructs	Weight	t-value	VIF
Entrepreneurial orientation			2.06
Innovativeness	0.40 ***	8.07	
Proactiveness	0.56 ***	9.88	
Risk taking	0.29 ***	7.28	
Improvisation capability			1.88
Creativity	0.77***	12.51	
Spontaneity	0.40 ***	6.12	

Notes:

Algorithm calculations based on path-weighting scheme.

All calculations based on bootstrapping with 1000 samples and individual sign changes.

Variance inflation factor.

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