ORIGINAL ARTICLE

Thriving in the global competitive landscape: competitive dynamics and longevity of emerging market firms

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Abstract

Drawing on the competitive dynamics perspective, this study examines how competitive aggressiveness and complexity affect the longevity of emerging market firms. In a longitudinal and survival analysis of 570 publicly listed Korean firms from 1998 to 2017, I theorize and reveal that emerging market firms pursuing competitive aggressiveness and complexity are more likely to survive longer, particularly those competing in industries with high competitive pressure stemming from industry globalization. Broadly, I contribute to the competitive dynamics literature by extending the scholarly understanding of the long-term survival implications of firms' competitive initiatives, unveiling a new boundary condition—competitive pressure from industry globalization, and broadening the spectrum of competitive dynamics research from Western to non-Western contexts.

Keywords Competitive dynamics · Competitive aggressiveness · Firm longevity · Competitive pressures from industry globalization · Emerging markets

Introduction

As intra-industry rivalry intensifies globally and market change accelerates, firms are more concerned about long-term survival issues than short-term financial performance (Gao et al., 2017; Josefy et al., 2017). To survive longer and prosper, firms often battle with one another through competitive action repertoires, defined as the entire series of "externally directed, specific, and observable competitive move[s] initiated by a firm to enhance its relative competitive position" (Smith et al., 2001, p. 317). Forcefully attacking rivals with an aggressive and diverse series of competitive actions enhances firms' competitive positions in the marketplace by neutralizing

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the effects of their counterparts' actions or preventing effective responses (e.g., Carnes et al., 2019; Chen & Miller, 2012; Chen et al., 2021; Ferrier et al., 1999). The competitive dynamics research that focuses on understanding firms' competitive actions vis-à-vis counterparts calls this competitive aggressiveness and complexity[1] and generally finds it to have positive effects on *short-term* financial and market performance outcomes (e.g., Andrevski et al., 2014; Carnes et al., 2019; Chen et al., 2010; Ferrier, 2001; Hughes-Morgan et al., 2018; Nadkarni et al., 2016). Nonetheless, whether competitive aggressiveness and complexity can help extend the *long-term* survival or longevity of firms remains an open question, particularly when globalized intra-industry rivalry intensifies. This knowledge gap is problematic given that firm longevity is a principal motivation in explaining the pursuit of competitive actions (D'Aveni, 1994), directly reflects firm failure (Josefy et al., 2017), and is essential for positive performance outcomes (Piao, 2010) under fierce global competition (Chen & Miller, 2015). The lack of exploration of this issue is particularly crucial for emerging market firms, as they often face survival challenges in uncertain environments due to intra-industry rivalry from global and local competitors, market failure, institutional voids, frequent environmental shifts, and political instability (Khanna & Palepu, 2010). In this study, I seek to fill the gap by exploring how competitive aggressiveness and complexity affect the longevity of firms in emerging markets, particularly when globalized intra-industry rivalry intensifies.

The research context of the present study is South Korea (hereafter, Korea), a representative emerging economy, where firms tend to engage in aggressive and diverse competitive actions to survive (e.g., Cho & Lee, 2018, 2020; Kim et al., 2004) but are highly likely to fail and the results of their initiatives cannot be easily predicted due to highly dynamic and uncertain environments (Hemmert, 2020; Khanna & Palepu, 2010). As a result, there is variation in the survival rate among firms in this context which is useful for investigating the topic.

I suggest that competitive aggressiveness and complexity increase the life span of firms in the context of the current study because these initiatives help them to address institutional voids, respond to frequent environmental shifts, keep rivals off-balance, secure new competitive opportunities and first-mover advantages, and create temporary competitive advantages. In addition, I propose a theoretical boundary condition, extending our scholarly understanding of the longevity implications of firms' competitive aggressiveness and complexity. Specifically, I suggest and focus on competitive pressure stemming from industry globalization—the extent to which value-added activities within industries are integrated across national boundaries (e.g., Kobrin, 1991; Wiesema & Bowen, 2008)—as the crucial boundary condition, given that it plays a significant role in the success or failure of competitive actions and reflects resulting opportunities and risks in specific industries (Chen & Miller, 2015). I argue that competitive aggressiveness and complexity are beneficial for

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[1] Competitive dynamics scholars define competitive aggressiveness and complexity as the frequency and variety of the entire series of competitive actions initiated by firms and consider these constructs as the main attributes of competitive action repertoires (e.g., Andrevski et al., 2014, 2016; Chen & Miller, 2012).

firms competing in industries in which competitive pressure from globalization is intense. This is because as competition stemming from globalization increases, firms often need to reap the benefits of operating on a global scale, realize new opportunities, and seize first-mover advantage quickly (Chen & Miller, 2012; Wiersema & Bowen, 2008), in which case pursuing an aggressive and diverse series of competitive actions can help increase their life spans.

My arguments receive empirical support from a unique panel dataset of all manufacturing Korean firms listed on the Korean Composite Stock Price Indexes (KOSPI) from 1998 to 2017. The results remain robust even after accounting for endogeneity bias and changing measures of firm longevity, as well as a combined measure of competitive aggressiveness and complexity. This study thereby provides several contributions to the competitive dynamics literature. *First*, I extend our scholarly understanding of the implications of competitive aggressiveness and complexity by providing empirical evidence of the relationship between these constructs and firm longevity, particularly in the context of emerging economies where market failure, frequent environmental shifts, political instability, and institutional voids are prevalent. Unlike prior studies that solely focused on short-term financial and market performance outcomes (e.g., Andrevski et al., 2014; Chen et al., 2010), I examine the positive long-term survival implications of competitive aggressiveness and complexity. The findings of this empirical study also support the competitive dynamics perspective, which emphasizes that competitive initiatives are crucial to firms' long-term survival (Chen & Miller, 2012; Smith et al., 2001), and indicate that this perspective is useful in explaining the competitive dynamics of firms in emerging markets. *Second*, I extend the competitive dynamics research in an important way by uncovering and shedding light on a new boundary condition—competitive pressures from industry globalization—that helps best capitalize on the effectiveness of competitive aggressiveness and complexity on the long-term survival prospects of emerging market firms. In so doing, I offer a more complete theory of the longevity implications of competitive aggressiveness and complexity. *Lastly*, by focusing on firms' competitive initiatives in the emerging market context, I respond to calls for exploration of firms' competitive dynamics in emerging markets and extend the scope of competitive dynamics research, which primarily focused on Western economies, to the context of non-Western economies (Chen & Miller, 2012, 2015).

Theoretical background

Motivated by the key tenets of the so-called Austrian school of economics (Jacobson, 1992; Kirzner, 1973; Schumpeter, 1934), competitive dynamics research views product–market rivalry as one competitive and dynamic process (Smith et al., 1992, 2001). Companies can achieve superior performance by periodically seeking potential profitable opportunities, developing and implementing competitive actions to take advantage of these opportunities before their competitors (Smith et al., 1992; Young et al., 1996). Early competitive dynamics literature mainly examined the indicators and consequences of individual competitive responses and actions (Chen et al., 1992; Smith et al., 1992). Subsequent studies have concentrated on

competitive action repertoires, which are the entire series of competitive actions that firms initiate in a given period (e.g., Andrevski & Miller, 2022; Andrevski et al., 2021), to examine how the attributes of these repertoires affect firm performance (Ferrier, 2001; Ferrier et al., 1999). Competitive aggressiveness and competitive complexity, defined respectively as the frequency and variety of firms' competitive actions (e.g., Andrevski et al., 2014, 2016; Carnes et al., 2019), have been identified as the central attributes of competitive action repertoires that most closely reflect the view of strategy as a coordinated series of actions and the nature of strategic planning in competitive business environments (Chen & Miller, 2012).

Prior research explored and demonstrated the positive effects of competitive aggressiveness and complexity on short-term financial and market performance (e.g., Andrevski et al., 2014; Carnes et al., 2019; Ferrier, 2001; Ferrier et al., 1999; Hughes-Morgan et al., 2018; Nadkarni et al., 2016; Ndofor et al., 2011). For example, Nadkarni et al. (2016) found that aggressive competitive actions lead to better returns on assets and returns on sales because it helps offset the efficacy of rivals' initiatives and facilitate exploitation of competitive opportunities. Miller and Chen (1996) demonstrated that firms pursuing competitive complexity achieve higher market performance as they could have a more variety of action repertoires than competitors, where no single action dominates in the intensity of engagement. Carnes et al. (2019) concluded in a meta-analysis that competitive aggressiveness and complexity have positive effects on accounting- and market-based firm performance. Prior research also explored and found various boundary conditions on performance implications of competitive initiatives (e.g., Andrevski et al., 2014, 2019; Chen et al., 2010; Derfus et al., 2008; Katila et al., 2012; Nadkarni et al., 2016). For example, scholars found that the performance benefits of competitive initiatives are universal in industrial environments characterized by high growth (Andrevski et al., 2014), high velocity (Nadkarni et al., 2016), intense competition (Chen et al., 2010), and newly developed markets (Katila et al., 2012). In addition, Derfus et al. (2008) showed a significant positive effect of competitive initiatives on performance for firms with high market shares in a position to take effective action and learn effectively. Andrevski and Ferrier (2019) found that firms with ample technological resources and dense networks of alliance partners are better positioned to achieve high profits through aggressive competitive action, as these resources and networks enable them to manage the acceleration-cost tradeoff effectively.

Despite these important insights and findings, limited attention has been paid to systematic empirical investigation of how long firms can survive by pursuing competitive aggressiveness and complexity, particularly in the face of intensifying competitive pressures from industry globalization. Although Lamberg et al. (2009) confirmed the positive long-term survival implications of competitive actions, their study focused on strategic consistency and did not address the aggressiveness and complexity of competitive actions, nor did they examine how competitive pressure from industry globalization affects the survival implications of competitive initiatives. This gap is problematic given that firm longevity is a principal reason for taking competitive actions (D'Aveni, 1994), directly captures firm failure (Josefy et al., 2017), and is an essential condition for positive performance outcomes (Piao, 2010), especially under fierce global competition (Chen & Miller, 2015). Moreover, the

theoretical development of and empirical findings related to competitive dynamics have been based on data from developed economies, typically the United States; the results of these studies have been questioned in emerging economies with highly uncertain environments (Chen & Miller, 2012, 2015). Indeed, Chen et al., (2010, p. 1426) noted that "given the rising level of economic activity taking place outside the United States and the level of global interaction and competition escalation, it is necessary and beneficial to explore the applicability and relevance of temporary advantage [derived from competitive aggressiveness and complexity] to economies with different cultures, histories, and business practices." Considering the dearth of research on the relationship between longevity and competitive aggressiveness and complexity, particularly in firms competing in emerging markets, I seek to extend competitive dynamics research to a new economic context and examine the effects of competitive aggressiveness and complexity in light of competitive pressure from industry globalization and their role in explaining the longevity of firms.

Hypothesis development

I suggest that competitive aggressiveness and complexity confer several benefits that may extend the life of firms, particularly in the context of emerging markets. Firms' relative chances of survival may derive from a series of competitive actions taken over time, each of which creates transient competitive advantages or undermines the position of counterparts in the marketplace (D'Aveni, 1994; Smith et al., 2001, 2005). Frequent pursuit of new competitive actions enables firms to keep rivals off-balance, restrict their counter-responses, and strengthen corporate internal knowledge via "trial-and-error learning" regarding patterns or sequences of competitive and counter behaviors (Andrevski et al., 2014; Chen et al., 2010; Ferrier, 2001). Such competitive aggressiveness also helps firms sense and seize potential business opportunities and secure first-mover advantages in the market (Ferrier et al., 1999; Nadkarni et al., 2016), thereby enabling them to capitalize on opportunities and benefits while causing unpredictability for competitors, all of which can increase their survival prospects. In addition to competitive aggressiveness, competitive complexity also increases firm longevity. A diverse repertoire of competitive actions reflects firms' efficient utilization of all available resources (Miller & Chen, 1996; Ndofor et al., 2011), enabling them to leverage market opportunities while creating unpredictability for competitors (Ferrier et al., 1999; Miller & Chen, 1996). Moreover, firms that choose competitive complexity as a strategy can avoid "the pitfalls of superstitious learning," such as narrow decision making (Ferrier, 2001; Ferrier et al., 1999). A wide range of competitive actions can also enable the targeting of different market segments with tailored strategies (Miller & Chen, 1996), improving understanding of their specific needs, building customer loyalty, and capturing market share (Carnes et al., 2019; Connelly et al., 2017), all of which can extend corporate life spans.

Higher competitive aggressiveness and complexity are *particularly* effective in extending the life span of firms operating in emerging markets. Emerging economies are often characterized by highly uncertain environments; firms cannot

easily predict the results of their competitive initiatives, and must contend with institutional voids, frequent environmental shifts, political issues, and threats from new local and global competitors (e.g., Cho & Garg, 2023; Gao et al., 2017; Khanna & Palepu, 2010; Marquis & Raynard, 2015). Thus, emerging market firms are driven to pursue competitive aggressiveness and complexity with the hope of generating a set of competitive advantages that would secure their prosperity and survival (Giachetti, 2016; Khanna & Palepu, 2010). In dynamic and uncertain emerging markets, firms concentrating on only a few competitive actions run the risk of unexpected consequences and may not easily recoup their losses if their actions fail (Giachetti, 2016). Meanwhile, firms that develop and execute competitive initiatives in an aggressive and diverse manner can facilitate effective learning, utilize a suitable blend of competitive actions, and determine the most impactful actions to extend their chances of survival. In emerging markets, where firms lack information about technological trajectories, competition, consumer demand, and factors influencing market failure, industry players often have little or no awareness of the scope and pace of market change (Gao et al., 2017; Zheng et al., 2022). This information deficit engenders uncertainties and challenges for firms competing in such markets (Khanna & Palepu, 2010). In response to these challenges, competitive aggressiveness and complexity can be effective to enhance firms' long-term survival prospects. By proactively engaging in aggressive and diverse competitive actions, firms can address market challenges, capitalize on opportunities, and gain a competitive edge over their rivals (Chen et al., 2010; Giachetti, 2016), which facilitates adaptation to changing market conditions, differentiation from competitors, and ultimate improvement of their chances of survival in the long run. I, therefore, hypothesize

Hypothesis 1a Competitive aggressiveness will be positively related to firm longevity.

Hypothesis 1b Competitive complexity will be positively related to firm longevity.

A competitive dynamics study has also suggested that intra-industry rivalry as a crucial contingent driver of firms' long-term survival can affect the success or failure of competitive aggressiveness and complexity (Chen & Miller, 2012). For intra-industry rivals, insufficient and inaccurate examination of obtainable information can result in inefficacious competitive responses (Derfus et al., 2008; Smith et al., 2001). To counter such rivalry effectively, firms thus need to quickly respond and accurately recognize their rivals' actions (Chen, 1996; Chen & MacMillan, 1992; Defus et al., 2008). Indeed, several studies on competitive rivalry have emphasized this point that firms should consider their counterparts when developing and executing competitive initiatives (Chen, 1996; Chen & MacMillan, 1992; Salomon & Martin, 2008; Zajac & Bazerman, 1991).

Notwithstanding previous research describing the "follow-the-leader" (Knickerbocker, 1973) and "exchange-of-threat" (Graham, 1978) reactions, the competitive dynamics literature has not explored how external competitive pressure

from industry globalization shapes how firms pursue competitive aggressiveness and complexity to enhance their long-term survival, particularly those that compete in emerging markets. I expect that such initiatives vary in effectiveness depending on external conditions arising from industry globalization, defined as the extent to which firms' value-added activities are integrated within industries across national boundaries (Kobrin, 1991; Wiesema & Bowen, 2008). Specifically, I suggest that coping with external competitive pressures quickly is crucial for firms operating in dynamic and uncertain emerging markets to avoid potential disadvantages, including market failures, frequent environmental shifts, institutional voids, and threats from new local and global rivals. Swift responses with higher competitive aggressiveness and complexity enable emerging market firms to effectively compete, capitalize on competitive opportunities, and mitigate potential disadvantages in the global marketplace. Therefore, the extent of the opportunities and risks stemming from competitive pressures may affect the longevity implications of emerging market firms' competitive aggressiveness and complexity.

In this article, I concentrate on competitive pressure arising from industry globalization, viewing it as a crucial boundary condition that may shape the effects of competitive aggressiveness on the longevity of firms in emerging markets. Strategy scholars have examined how industry globalization affects strategic initiatives; the abolition of controls, mitigated trade barriers, and advanced technologies have enhanced interdependence across countries, which has encouraged global competition (e.g., Kobrin, 1991; Wiersema & Bowen, 2008). Each industry has distinctive characteristics that shape the actions and outcomes of firms in that industry (Derfus et al., 2008; Ferrier, 2001, Ferrier et al., 1999; Miller & Chen, 1996; Porter, 1980). Therefore, the extent of globalization may differ greatly across industries, contingent on the degree to which conducting business globally offers competitive advantages (Wiersema & Bowen, 2008). Emerging market firms competing in highly globalized industries may pursue competitive aggressiveness and complexity as an imperative, given the need to proactively respond to dynamic and rapidly changing global market conditions and mitigate uncertainty embedded in emerging markets. In highly globalized industries, where market trends, customer preferences, and the competitive landscape can evolve quickly (Kobrin, 1991; Wiersema & Bowen, 2008), firms in emerging markets may pursue aggressive and diverse competitive actions to stay ahead of global and local competitors. By actively sensing and seizing potential opportunities in the global marketplace, such firms can leverage their global perspective, adapt to changing circumstances, and gain strong competitive advantages over their less aggressive counterparts. Such initiatives are particularly necessary to navigate the uncertainties and complexities of global markets (Chen & Miller, 2015) and maintain a competitive edge in the face of rapid changes and disruptions (Chen et al., 2010; Giachetti, 2016). Thus, competitive aggressiveness and complexity may provide considerable benefits to emerging market firms under high competitive pressure from industry globalization, as they can tap the global economy of scale and new competitive opportunities, which increase their long-term survival prospects. I, thus, hypothesize

Hypothesis 2a Competitive pressure from industry globalization will positively moderate the relationship between competitive aggressiveness and firm longevity.

Hypothesis 2b Competitive pressure from industry globalization will positively moderate the relationship between competitive complexity and firm longevity.

Methodology

The sample consisted of 570 Korean manufacturing firms listed in the KOSPI stock market from 1998 to 2017. Korea offers a suitable context to test the proposed hypotheses for the following reasons. First, during the time window of this study, Korean firms executed highly aggressive diverse competitive actions to thrive and prolong their survival (e.g., Cho, 2022; Cho et al., 2021; Hemmert, 2020; Rowley & Paik, 2009). The variation in competitive actions among sampled firms thus makes it possible to examine the hypotheses. Second, among the 570 firms listed in the KOSPI stock market during the period of 1998–2017, 146 firms ceased operations owing to bankruptcy (26%). Thus, the setting is ideal for examining the survival implications of competitive actions. Lastly, as prior studies on competitive dynamics have largely focused on firms in Western contexts, especially the United States, the scope of this research needs to be expanded to different economic contexts (Chen & Miller, 2012, 2015). Korea, a nation with a highly uncertain and dynamic emerging market in which various market failures have occurred (e.g., Bamiatzi et al., 2016; Siegel, 2007), is an appropriate context for such research.

To collect data, I used the TS2000 database to obtain corporate financial and non-financial information (Jeong & Kim, 2019; Jeong et al., 2022), the LexisNexis database for information on competitive action (e.g., Ndofor et al., 2011, 2015), and the KOSIS database and OECD statistics for industry information. I first identified 635 listed firms in the KOSPI stock market and confirmed that 146 firms were delisted from 1998 to 2017. I removed firms for which financial and non-financial data was incomplete. In addition, to increase the validity of the results, I excluded firms delisted because of name changes or mergers and acquisitions, as these do not accurately represent firm failure (Cho et al., 2018; Kim & Huh, 2015). The final sample thus included 570 firms during the study time frame (8,108 firm-year observations from 1998 to 2017). Of these 570 firms, 146 firms (26%) ceased operations over the period.

Dependent variable

Longevity

The Cox-proportional hazard analysis that I used for hypothesis testing requires data specifying survival periods and failure events. For data specifying survival periods, I measured the life span of firms as the total number of days a focal firm was listed, from its first listing date to its delisting date (e.g., Cho et al., 2018; Kim & Huh,

2015) using KOSPI stock market data for firms that experienced bankruptcy (or to the end of the year 2017, whichever came first). For data specifying failure events, I used a dummy variable that took a value of 1 if firms were delisted due to bankruptcy and 0 otherwise.

Independent variable

Competitive aggressiveness and complexity

In line with the competitive dynamics literature, this study conducted a structural content analyses of news headlines to identify competitive action in sample firms (e.g., Andrevski & Ferrier, 2019; Ferrier, 2001; Nadkarni et al., 2016; Ndofor et al., 2011, 2015; Zheng et al., 2022). Based on newspaper and trade publications in the LexisNexis database, this study manually coded all news headlines as follows. First, two experienced academics independently read and identified each article on the competitive action of the sample firms for the period 1998–2017. Utilizing the NVivo software, they categorized the articles into eight pre-set action types: new product development, capacity action, legal action, alliances, price cuts, market expansion, acquisitions, and marketing campaigns (e.g., Connelly et al., 2017; Ferrier, 2001). Second, two experienced academics assessed each news headline to identify duplicate news articles and decide whether the articles verified that the abovementioned competitive action had been taken. Their inter-coder reliability was 0.81. I then utilized the coded data to measure competitive aggressiveness and complexity.

Consistent with prior research (e.g., Andrevski & Ferrier, 2019; Andrevski et al., 2016), I measured *competitive aggressiveness* as the number of competitive actions implemented in a focal year. Given that this number varied across action types, I standardized the number of competitive actions within each action type by calculating and then summing the z-scores for each of the eight action categories (Andrevski et al., 2016; Miller & Chen, 1996). *Competitive complexity* was measured using the Herfindahl index: $1 - \sum_i P_i^2$, where P_i indicates the ratio of competitive action in category i ($i = 1$–8) (e.g., Ferrier, 2001; Ferrier et al., 1999; Ndofor et al., 2011). As firms in different industries vary in their pursuit of competitive aggressiveness and competitive complexity, I controlled for competitive complexity when testing the effect of competitive aggressiveness, and vice versa (Andrevski & Ferrier, 2019; Andrevski et al., 2014).

Moderating variable

Industry globalization

In line with previous studies (e.g., Kobrin, 1991; Wiesema & Bowen, 2008), I used the index of intra-industry trade developed by Grubel and Lloyd (1975) to capture the degree of competitive pressure from industry globalization.

$$\text{Intra-industry Trade} = \frac{[(\text{Exports} + \text{Imports}) - \text{Absolute Value} (\text{Exports} - \text{Imports})]}{(\text{Exports} + \text{Imports})}.$$

Values for intra-industry trade represent the proportion of the total trade volume in a specific industry, either two-way or matching trade. These values capture the two-way exchange of goods within a given industry category (Greenaway & Milner, 1986; Wiesema & Bowen, 2008). The index for these values ranges from 0 to 1, with high values for industries in which global integration across national borders is considerable and thus competitive pressure from industry globalization is high. I estimated intra-industry trade values for each industry classified according to the two-digit Korean Standard Industrial Classification system using annual data on Korean imports and exports derived from the OECD statistics database.

Control variables

I controlled for several firm- and industry-level attributes that may influence firm longevity: *firm age*, measured as the number of years since corporate foundation; *firm size*, calculated as the log of sales; *Tobin's Q*, measured as the ratio of the market value divided by the asset value; *return on assets*, measured as the ratio of net income divided by assets; *leverage*, operationalized as the ratio of debts to assets; *financial slack*, measured as the ratio of quick assets to debts; 5% *non-family blockholder ownership*, calculated as the ratio of stocks owned by all non-family blockholders; *family ownership*, measured as the sum of the ratio of stocks held by all family members and by affiliates in the same family business group (Chang, 2003); *family CEO presence*, measured as a binary variable implying family CEO presence (1) or absence (0); *founder CEO presence*, measured as a dummy variable indicating the presence (1) or absence (0) of the founder; *business group*, calculated as a variable indicating whether a firm belonged to a business group listed with the Korean Fair Trade Commission (1) or not (0); *political ties*, measured as the ratio of board members who were previously government officials to the total number of board members (Cho et al., 2018); % *non-family directors*, calculated as the ratio of non-family directors to the total number of directors; *board size*, measured as the log of the total number of board members; *export intensity*, measured as total export sales divided by total sales; *international diversification*, measured as the log of the number of countries in which a firm has overseas subsidiaries (Lu & Beamish, 2004); *market share*, calculated as the firm's total revenues divided by total industry revenues (Andrevski et al., 2019); *industry concentration*, measured as the Herfindahl index of industry sales (Boyd, 1995); *industry munificence*, calculated as the ratio of total industry sales in the focal year to total industry sales in the past year (Derfus et al., 2008); *industry dynamism*, indicated by the standard error of the regression coefficient related to a time dummy variable divided by the average value of industry shipments (Boyd, 1995; Connelly et al., 2017); and *year dummies* to explain contemporaneous correlations (Certo & Semadeni, 2006).

Estimation methods

I used the Cox-proportional hazard model (CPHM) specification to control for censoring problems (Cox, 1972; Cox & Oakes, 1984). As with most event history analyses, the main problem involved a censoring issue, given that many sample firms continued to operate after 2017. This is therefore a suitable setting for use of CPHM, a robust technique for hazard ratio analysis in which assumptions about the precise nature of the probability distributions of a hazard are unlimited, and simultaneous estimates of the effects of several predictors on survival are possible (Cox, 1972; Lee et al., 2015; Patel et al., 2014). The CPHM formula is as follows:

$$h\big(t|x_i\big) = h_o(t)\exp\big(x_i\beta_x\big),$$

where $h\big(t|\mathrm{x}_i\big)$ is the hazard ratio for firm i using the function of the explanatory variables, and x_i and β_x denote the regression coefficients to be estimated.

Controlling for endogeneity bias on competitive action

Engagement in competitive action may not occur randomly; it may in fact be endogenous to some unobserved organizational and environmental factors (e.g., Andrevski & Ferrier, 2019; Andrevski et al., 2014). If this potential endogeneity issue is not addressed, results of the Cox regression analysis of the effect of competitive initiatives may be biased. To address this issue, I performed the Cox regression analysis with Heckman's (1979) two-stage model (e.g., Lee et al., 2015; Patel et al., 2014; Zheng et al., 2015); that is, as an additional indicator, the Cox regression analysis included the inverse Mill's ratio (IMR) on the pursuit of competitive action calculated from the first-stage probit model (see Table 4 in Appendix). For the first-stage model, I used a competitive action dummy (which takes a value of 1 if the firm took competitive action in a given year and 0 otherwise) as the dependent variable, including the abovementioned control variables and two additional instrumental variables as independent variables. As exogenous and relevant instrumental variables, I included general and administrative expenditures (calculated as total general and administrative expenditures divided by total sales) and the historical pursuit of competitive action in the history of the firm (which takes a value 1 if the firm took competitive action before a given year). The rationale for the inclusion of these instrumental variables is as follows: given that a large amount of general and administrative expenditures reflects resources absorbed within the firm, it may be used to represent the firm's ability to pursue competitive initiatives (Carnes et al., 2019). In addition, the historical pursuit of competitive action in the history of a firm reflects its ability and motivation to develop and initiate new competitive action in a given year (e.g., Andrevski et al., 2016). Empirically, these instrumental variables are highly correlated with the pursuit of competitive action (general and administrative expenditures: $r=0.079$, $p=0.000$; historical pursuit of competitive action: $r=0.490$, $p=0.000$), but not with firm longevity (general and administrative expenditures: $r=0.014$, $p=0.213$; historical pursuit of competitive action: $r=-0.005$, $p=0.664$).

The calculated IMR for the pursuit of competitive action was then included as an additional predictor in the CPHM.

Results

Table 1 presents the descriptive statistics and correlation matrix. All variance inflation factors are less than 3.37, indicating that multicollinearity is not a problem. I also centered competitive aggressiveness, competitive complexity, and industry globalization by their mean values to avoid multicollinearity. To mitigate the impact of possibly spurious outliers driving the results, I winsorized all ratio variables at the 1st and 99th percentiles.

Table 2 shows the results of the analysis using the CPHM. The CPHM provides the hazard ratio for the life span of firms (e.g., Cho et al., 2018; Kim & Huh, 2015; Piao, 2010). In this study, the hazard ratio is used to interpret the practical significance of analysis findings; the hazard ratio of 1 signifies no discernible impact of our predictor variables on bankruptcy risk, while the hazard ratio greater than 1 indicates an elevated risk, and the hazard ratio less than 1 implies a diminished risk (Cox, 1972; Cox & Oakes, 1984). In Hypothesis 1, I suggest that (a) competitive aggressiveness and (b) competitive complexity will be positively related to firm longevity. Model 2 shows that the hazard ratios pertaining to competitive aggressiveness and complexity are 0.69 ($p < 0.01$) and 0.26 ($p < 0.01$), respectively. These results imply that firms with higher competitive aggressiveness exhibit a 31% reduced likelihood of bankruptcy compared to those with lower competitive aggressiveness. Similarly, firms with higher competitive complexity demonstrate a 74% decreased probability of bankruptcy relative to their counterparts with lower levels of competitive complexity. Thus, Hypothesis 1, which posited that firms pursuing competitive aggressiveness and complexity are more likely to survive longer, is supported.

In Hypothesis 2, I propose that competitive pressure from industry globalization will positively moderate the relationship between (a) competitive aggressiveness and (b) competitive complexity and firm longevity. Model 3 shows that the hazard ratios associated with the interaction terms of competitive aggressiveness and industry globalization, and competitive complexity and industry globalization are 0.23 ($p < 0.01$) and 0.001 ($p < 0.01$), respectively. In addition, the inclusion of interaction terms creates better-specified models (i.e., the chi-squared change in variance is significant beyond the 0.01 level). The results imply that as competitive pressures from industry globalization increase, firms pursuing higher competitive aggressiveness and complexity are 77% and 99.9% less likely to face bankruptcy respectively compared to their rivals with lower levels of competitive aggressiveness and complexity. Thus, Hypothesis 2 is supported.

As an alternative proxy of firm longevity, I also industry-centered the total number of days from a firm's corporate listing to its delisting. Specifically, I used the number of days a given firm was listed scaled by the average number of listing days of all firms in the same year and industry classification. As presented in Table 3, the findings were consistent: firms pursuing higher competitive aggressiveness and complexity are likely to survive longer than industry competitors, particularly when

Table 1 Descriptive statics and correlation matrix

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. No. of listing days	9863.11	4229.50	1.00												
2. Firm age (log)	1.51	0.28	0.63	1.00											
3. Firm size (log)	8.33	0.65	0.05	−0.03	1.00										
4. Tobin's Q	1.02	0.52	−0.19	−0.16	0.07	1.00									
5. ROA	0.01	0.12	0.01	−0.02	0.23	−0.12	1.00								
6. Leverage	0.48	0.26	−0.04	−0.07	0.03	0.24	−0.50	1.00							
7. Financial slack	0.98	0.97	−0.10	0.02	−0.16	−0.02	0.21	−0.57	1.00						
8. Non-family blockholder owner-ship	0.17	0.20	0.00	−0.06	0.40	0.15	0.15	−0.09	0.13	1.00					
9. Family ownership	0.39	0.18	−0.06	−0.03	0.02	−0.18	0.23	−0.28	0.07	−0.28	1.00				
10. Family CEO presence	0.72	0.45	0.06	0.10	−0.10	−0.18	0.13	−0.19	0.08	−0.19	0.21	1.00			
11. Founder CEO presence	0.39	0.49	−0.16	−0.13	−0.18	−0.11	0.08	−0.08	0.11	−0.13	0.08	0.50	1.00		
12. Business group (log)	0.60	0.71	−0.08	−0.15	0.53	0.11	0.10	−0.02	−0.15	0.11	0.10	−0.18	−0.23	1.00	
13. Political ties	0.11	0.15	−0.06	−0.08	0.29	0.13	0.00	0.05	−0.08	0.11	−0.06	−0.12	−0.11	0.25	1.00
14. % Non-family directors	0.78	0.18	−0.07	−0.10	0.18	0.16	−0.09	0.16	−0.07	0.21	−0.15	−0.63	−0.39	0.21	0.17
15. Board size (log)	0.79	0.16	0.18	0.07	0.34	−0.01	0.12	−0.12	0.01	0.25	−0.01	0.05	−0.03	0.13	0.08
16. R&D intensity	0.01	0.02	−0.07	−0.06	0.03	0.26	−0.05	−0.08	0.05	0.07	−0.09	−0.03	−0.05	0.12	0.11
17. Advertising intensity	0.01	0.02	0.05	0.00	0.02	0.18	0.06	−0.07	0.07	0.08	−0.02	0.06	−0.07	−0.04	−0.01
18. Export intensity	0.25	0.29	−0.03	−0.08	0.11	−0.03	−0.05	0.10	−0.08	0.04	−0.12	−0.06	0.04	0.05	0.02
19. International diversification (log)	0.71	0.72	−0.06	−0.08	0.49	0.09	0.08	0.00	−0.09	0.21	−0.03	−0.02	−0.04	0.34	0.20
20. Market share	0.07	0.57	−0.02	0.00	0.01	0.03	−0.02	0.02	0.00	0.04	−0.03	−0.02	0.00	−0.01	0.00
21. Industry concentration	0.01	0.05	0.04	−0.01	0.33	0.06	0.07	−0.03	−0.03	0.21	−0.11	−0.09	−0.08	0.18	0.09
22. Industry munificence	0.06	0.22	0.00	−0.01	0.10	0.05	0.22	−0.04	−0.03	0.01	0.03	0.02	0.03	0.03	0.01
23. Industry dynamism	0.40	0.09	−0.15	−0.06	0.10	0.11	0.06	0.00	0.03	0.06	0.00	−0.07	−0.05	0.14	0.05

Table 1 (continued)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
24. Aggressiveness (z-scores)	0.00	1.00	0.00	−0.05	0.40	0.08	0.05	−0.04	−0.03	0.23	−0.11	−0.06	−0.10	0.28	0.12
25. Complexity	0.94	0.17	0.06	0.12	−0.61	−0.19	−0.08	0.00	0.06	−0.30	0.12	0.11	0.13	−0.41	−0.22
26. Industry globalization	0.69	0.22	−0.07	−0.05	−0.02	−0.07	0.02	−0.06	−0.01	0.00	0.02	0.03	0.04	0.01	0.01
27. IMR	1.01	0.54	0.09	0.13	−0.74	−0.35	−0.18	0.09	0.00	−0.27	−0.02	0.00	0.14	−0.49	−0.28

Variables	Mean	SD	14	15	16	17	18	19	20	21	22	23	24	25	26	27
14. % Non-family directors			1.00													
15. Board size (log)			0.25	1.00												
16. R&D intensity			0.04	0.03	1.00											
17. Advertising intensity			−0.07	0.06	0.16	1.00										
18. Export intensity			0.05	0.04	−0.02	−0.24	1.00									
19. International diversification (log)			0.09	0.21	0.13	−0.04	0.17	1.00								
20. Market share			0.03	0.00	0.02	0.04	−0.02	−0.01	1.00							
21. Industry concentration			0.09	0.18	0.05	0.07	0.06	0.23	0.05	1.00						
22. Industry munificence			0.00	0.03	−0.03	0.00	0.03	−0.01	−0.02	0.02	1.00					
23. Industry dynamism			0.07	−0.01	0.09	0.01	0.02	0.08	−0.05	−0.07	0.05	1.00				
24. Aggressiveness (z-scores)			0.08	0.13	0.13	0.04	0.00	0.26	0.01	0.30	0.00	0.06	1.00			
25. Complexity			−0.14	−0.21	−0.17	−0.11	−0.02	−0.38	−0.03	−0.34	−0.05	−0.02	−0.14	1.00		
26. Industry globalization			−0.03	0.00	−0.09	−0.16	0.05	−0.07	−0.03	−0.05	0.00	0.00	−0.69	0.12	1.00	
27. IMR			−0.11	−0.25	−0.28	−0.33	0.07	−0.41	−0.01	−0.26	−0.07	−0.22	−0.28	0.52	0.07	1.00

Correlations greater than 0.02 or less than −0.02 are significant at $p < 0.05$. $N = 8108$

Table 2 Results of Cox-proportional hazard analysis

	Model 1 Coefficient (p value)	Hazard ratio	Model 2 Coefficient (p value)	Hazard ratio	Model 3 Coefficient (p value)	Hazard ratio
Aggressiveness			−0.37*** (0.01)	0.69	−0.53*** (0.00)	0.59
Complexity			−1.36*** (0.00)	0.26	−1.92*** (0.00)	0.15
Aggressiveness*Industry globalization					−1.49*** (0.00)	0.23
Complexity*Industry globalization					−6.91*** (0.00)	0.001
Industry globalization	0.58*** (0.00)	1.78	0.62*** (0.00)	1.85	−0.44 (0.32)	0.64
Firm age (log)	−2.26*** (0.00)	0.10	−2.25*** (0.00)	0.11	−2.26*** (0.00)	0.10
Firm size (log)	−0.63*** (0.00)	0.53	−0.65*** (0.00)	0.52	−0.64*** (0.00)	0.53
Tobin's Q	0.02 (0.79)	1.02	0.02 (0.82)	1.02	0.02 (0.86)	1.02
ROA	−1.07*** (0.00)	0.34	−1.07*** (0.00)	0.34	−1.05*** (0.00)	0.35
Leverage	0.91*** (0.00)	2.48	0.91*** (0.00)	2.50	0.94*** (0.00)	2.56
Financial slack	0.11** (0.02)	1.12	0.11** (0.02)	1.12	0.12** (0.01)	1.13

Table 2 (continued)

	Model 1 Coefficient (p value)	Hazard ratio	Model 2 Coefficient (p value)	Hazard ratio	Model 3 Coefficient (p value)	Hazard ratio
Non-family blockholder ownership	−0.07 (0.73)	0.94	−0.08 (0.70)	0.93	−0.08 (0.68)	0.92
Family ownership	−0.10 (0.61)	0.91	−0.10 (0.61)	0.91	−0.12 (0.53)	0.89
Family CEO presence	−1.02*** (0.00)	0.36	−1.00*** (0.00)	0.37	−0.99*** (0.00)	0.37
Founder CEO presence	0.47*** (0.00)	1.60	0.46*** (0.00)	1.59	0.47*** (0.00)	1.60
Business group (log)	0.43*** (0.00)	1.54	0.43*** (0.00)	1.54	0.44*** (0.00)	1.55
Political ties	−1.21*** (0.00)	0.30	−1.25*** (0.00)	0.29	−1.26*** (0.00)	0.28
% Non-family boards	0.30 (0.26)	1.36	0.31 (0.25)	1.36	0.34 (0.21)	1.40
Board size (log)	−0.76*** (0.00)	0.47	−0.77*** (0.00)	0.46	−0.82*** (0.00)	0.44
R&D intensity	2.83 (0.23)	16.99	2.93 (0.22)	18.71	3.07 (0.20)	21.50
Advertising intensity	2.21 (0.33)	9.11	2.25 (0.32)	9.52	2.37 (0.30)	10.69
Export intensity	−0.75*** (0.00)	2.12	−0.75*** (0.00)	2.12	−0.76*** (0.00)	2.14

Table 2 (continued)

	Model 1 Coefficient (p value)	Hazard ratio	Model 2 Coefficient (p value)	Hazard ratio	Model 3 Coefficient (p value)	Hazard ratio
International diversification (log)	−0.11* (0.07)	0.90	−0.11* (0.06)	0.89	−0.12** (0.04)	0.88
Market share	0.02 (0.62)	1.02	0.02 (0.66)	1.02	0.02 (0.65)	1.02
Industry concentration	−3.49** (0.01)	0.03	−3.63** (0.01)	0.03	−3.92*** (0.01)	0.02
Industry growth	0.15 (0.23)	1.17	0.15 (0.24)	1.16	0.15 (0.22)	1.17
Industry dynamism	−1.77*** (0.00)	0.17	−1.84*** (0.00)	0.16	−1.78*** (0.00)	0.17
IMR	−0.30* (0.06)	0.74	−0.26 (0.11)	0.77	−0.23 (0.14)	0.79
Year dummies	Incl		Incl		Incl	
Log-pseudo-likelihood	−8669.36		−8665.41		−8656.64	
Wald chi-squared	1780.57***		1788.49***		1806.03***	
Changes in chi-squared			7.92***		17.54***	
Observations	8,108		8,108		8,108	

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$; p values are reported in parentheses below estimated coefficients; hazard ratio is presented in italics; robust standard errors are used

Table 3 Results of Cox-proportional hazard analysis (robustness test: alternative measure of longevity)

	Model 1 Coefficient (p value)	Hazard ratio	Model 2 Coefficient (p value)	Hazard ratio	Model 3 Coefficient (p value)	Hazard ratio
Aggressiveness			-0.50** (0.01)	0.61	-0.64*** (0.01)	0.53
Complexity			-1.51*** (0.00)	0.22	-1.82*** (0.00)	0.16
Aggressiveness*Industry globalization					-1.55** (0.02)	0.21
Complexity*Industry globalization					-4.59*** (0.00)	0.01
Industry globalization	1.43*** (0.00)	4.18	1.45*** (0.00)	4.28	0.31 (0.55)	1.37
Firm age (log)	-0.48*** (0.00)	0.62	-0.47*** (0.00)	0.62	-0.48*** (0.00)	0.62
Firm size (log)	-0.67*** (0.00)	0.51	-0.68*** (0.00)	0.51	-0.67*** (0.00)	0.51
Tobin's Q	0.12 (0.18)	1.12	0.11 (0.21)	1.12	0.11 (0.19)	1.12
ROA	-1.21*** (0.00)	0.30	-1.23*** (0.00)	0.29	-1.22*** (0.00)	0.29
Leverage	0.53*** (0.00)	1.69	0.54*** (0.00)	1.71	0.55*** (0.00)	1.73
Financial slack	0.02 (0.72)	1.02	0.02 (0.67)	1.02	0.02 (0.62)	1.02

Table 3 (continued)

	Model 1 Coefficient (p value)	Hazard ratio	Model 2 Coefficient (p value)	Hazard ratio	Model 3 Coefficient (p value)	Hazard ratio
Non-family blockholder ownership	−0.32* (0.10)	0.73	−0.32* (0.09)	0.72	−0.33* (0.08)	0.72
Family ownership	−0.69*** (0.00)	0.50	−0.69*** (0.00)	0.50	−0.69*** (0.00)	0.50
Family CEO presence	−0.96*** (0.00)	0.38	−0.95*** (0.00)	0.39	−0.93*** (0.00)	0.39
Founder CEO presence	0.66*** (0.00)	1.93	0.66*** (0.00)	1.93	0.66*** (0.00)	1.93
Business group (log)	0.41*** (0.00)	1.51	0.41*** (0.00)	1.51	0.42*** (0.00)	1.52
Political ties	−1.05*** (0.00)	0.35	−1.06*** (0.00)	0.35	−1.06*** (0.00)	0.35
% Non-family boards	0.72*** (0.00)	2.06	0.73*** (0.00)	2.08	0.75*** (0.00)	2.12
Board size (log)	−1.08*** (0.00)	0.34	−1.10*** (0.00)	0.33	−1.13*** (0.00)	0.32
R&D intensity	5.65*** (0.01)	284.92	5.52*** (0.01)	250.83	5.82*** (0.01)	335.66
Advertising intensity	0.02 (0.99)	1.02	−0.06 (0.98)	0.94	0.24 (0.91)	1.27
Export intensity	−1.03*** (0.00)	2.81	−1.03*** (0.00)	2.81	−1.03*** (0.00)	2.80

Table 3 (continued)

	Model 1 Coefficient (p value)	Hazard ratio	Model 2 Coefficient (p value)	Hazard ratio	Model 3 Coefficient (p value)	Hazard ratio
International diversification (log)	−0.06	0.94	−0.06	0.94	−0.06	0.94
	(0.28)		(0.27)		(0.27)	
Market share	0.06	1.06	0.06	1.06	0.06	1.06
	(0.21)		(0.22)		(0.20)	
Industry concentration	2.44**	11.51	2.12*	8.34	1.74	5.72
	(0.02)		(0.05)		(0.13)	
Industry growth	0.19	1.20	0.19	1.21	0.19	1.20
	(0.16)		(0.16)		(0.16)	
Industry dynamism	6.07***	432.84	6.03***	414.77	6.04***	420.12
	(0.00)		(0.00)		(0.00)	
IMR	−0.06	0.95	−0.02	0.98	0.00	1.00
	(0.71)		(0.90)		(0.98)	
Year dummies	Incl		Incl		Incl	
Log-pseudo-likelihood	−8232.99		−8229.40		−8226.95	
Wald chi-squared	1631.43***		1653.06***		1674.37***	
Changes in chi-squared	21.63***		21.63***		21.31***	
Observations	8108		8108		8108	

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$; p values are reported in parentheses below estimated coefficients; hazard ratio is presented in italics; robust standard errors are used

competitive pressure from industry globalization is high. In addition, using a composite measure of competitive aggressiveness and complexity in a robustness check of the competitive action repertoire measure (Giachetti, 2016), I found that the results remain largely consistent. As an additional robustness check, I examined the actual impact of each action type and found that the coefficients on each action type and the coefficients on the interaction term with industry globalization negatively predict the hazard ratio, with all coefficients empirically supported beyond the 0.10 significance level, and hazard ratios being less than 0.90. These results, available on request, imply that competitive action increases firm longevity regardless of the action type.

Discussion

This study draws on the competitive dynamics perspective to examine how competitive aggressiveness and complexity affect the longevity of firms in emerging markets, a topic neglected in the competitive dynamics literature. In a longitudinal and survival analysis of 570 listed Korean firms from 1997 to 2017, I find that emerging market firms pursuing competitive aggressiveness and complexity are more likely to survive longer, particularly those competing in industries with high competitive pressure from industry globalization.

Theoretical implications

This study makes three important contributions. First, I contribute to the competitive dynamics research by theorizing and empirically showing that competitive aggressiveness and complexity play important roles in determining the longevity of firms, particularly in the context of dynamic and uncertain emerging markets where market failure, frequent environmental shifts, political instability, and institutional voids are prevalent. Although it is a commonly held belief among competitive dynamics scholars that pursuing competitive aggressiveness and complexity increases the likelihood of long-term corporate survival (Chen & Miller, 2012; Smith et al., 2001), most prior empirical studies have focused on the effects of competitive action repertoires on short-term financial and market performance (e.g., Andrevski & Ferrier, 2019; Derfus et al., 2008; Ferrier, 2001; Ferrier et al., 1999). Even after several calls for research in this area (e.g., Lamberg et al., 2009), to date, no study has explored the implications of competitive aggressiveness and complexity for firm longevity—how intensive pursuit of an aggressive and diverse series of competitive actions affects firm survival. I fill the gap between theoretical beliefs and empirical evidence by showing the positive impact of competitive aggressiveness and complexity on the longevity of firms operating in emerging markets based on a longitudinal dataset covering a period of 20 years (1998–2017). The findings also support the competitive dynamics perspective, which emphasizes that competitive initiatives are crucial drivers of firm survival (Chen & Miller, 2012; Smith et al., 2001), and indicate

that this perspective is useful in explaining the competitive dynamics between firms competing in emerging markets.

Second, this study provides a contingency perspective on the implications of competitive aggressiveness and complexity for firm longevity by exploring the moderating role of industry globalization. Specifically, I theorize and empirically investigate the important boundary condition that the effectiveness of strategies based on competitive aggressiveness and complexity varies depending on competitive pressure arising from industry globalization. The findings imply that pursuing competitive aggressiveness and complexity is an effective strategy for firms competing in industries characterized by high competitive pressure from globalization. Coping with external competitive pressure from industry globalization is particularly crucial for firms operating in dynamic and uncertain emerging markets to avoid potential disadvantages, including market failure, frequent environmental shifts, institutional voids, and threats from new local and global rivals. Swift response with an aggressive and diverse series of competitive actions is necessary for emerging market firms to capitalize on competitive opportunities and mitigate potential disadvantages in the global marketplace. Firms in emerging markets thus must develop and carry out competitive initiatives depending on their industrial environmental conditions. The findings also indicate that competitive pressure from industry globalization is a crucial contingent factor moderating the effect of competitive aggressiveness and complexity in addition to various organizational internal and external contingencies explored in prior studies (cf. Andrevski & Ferrier, 2019; Derfus et al., 2008; Miller & Chen, 1996; Nadkarni et al., 2016). In this respect, I contribute to the literature by revealing a new boundary condition to elucidate competitive dynamics of firms.

Third, the focus on Korea in this study extends the competitive dynamics research, which gives less attention to the context of non-Western economies and has not examined in detail the implications of competitive dynamics for firms competing in emerging markets (Chen & Miller, 2012, 2015). Extant research has largely explored competitive dynamics within developed economies, typically the United States (e.g., Ferrier, 2001; Ferrier et al., 1999). However, considering the increasing amount of business activity taking place outside the United States and the escalation of global interaction and competition, research needs to be conducted in different economic, cultural, and historical contexts (Chen et al., 2010). To date, no study has explored the implications of competitive dynamics for corporate longevity, particularly from the viewpoint of firms competing in emerging markets. This study provides a potential explanation and empirical evidence of the influence of competitive initiatives on the life span of firms in emerging markets. I thereby respond to calls for exploration of firms' competitive dynamics in emerging markets and extend the scope of competitive dynamics research to the context of non-Western economies (Chen & Miller, 2012, 2015).

Managerial and policy implications

The findings of this study imply that for executives of firms in emerging markets, especially those in industries facing high competitive pressure from globalization,

forcefully pursuing an aggressive and diverse series of competitive actions can be an effective strategy to improve their chances of long-term survival. In other words, executives of such firms should carefully evaluate the environmental conditions of their industries when developing and implementing competitive initiatives. Although pursuing competitive aggressiveness and complexity may improve the firms' survival chances, such pursuit may be more effective in industries where competitive pressure from globalization is intense. Thus, to survive longer and capitalize on the benefits of competitive actions, executives should assess their industrial conditions in terms of competitive pressures from globalization and undertake competitive actions when such industrial conditions are sufficiently evaluated.

In dynamic and uncertain emerging economies, policymakers should also encourage and facilitate an enabling environment that supports such firms in pursuing an aggressive and diverse series of competitive actions. Reducing regulatory barriers to entry and innovation, promoting fair competition, and investing in infrastructure and technology contribute to such an environment. In emerging economies where market failure and institutional voids are prevalent, policies should promote the rule of law, transparency, and accountability in government institutions. This can be achieved by implementing and enforcing legal frameworks that safeguard property rights, fight corruption, and foster fair competition, which ultimately helps emerging market firms pursuing competitive aggressiveness and complexity to survive longer.

Limitations and future research directions

This study has limitations that should be acknowledged. First, data constraints limit the investigation to externally market-oriented competitive actions. Internally-directed actions, such as implementation of new information systems, merit examination as well. To account for different effects, future research should also explore internal and external competitive actions separately or integrally. This approach may provide a more accurate representation of the characteristics of competitive actions and encourage objectivity in the evaluation of corporate strategy (Chen & Miller, 2012). Second, this study's analysis of competitive aggressiveness and complexity is limited to individual firm-level competitive action repertoires. Future studies may explore the long-term survival implications of competitive action repertoires in the context of dyads (e.g., Connelly et al., 2019). Lastly, I only examine the implications of competitive aggressiveness and complexity on firm longevity in the context of Korean manufacturing industries. Future scholars should explore this topic in other settings to increase the generalizability of the findings of the present study.

Appendix

See Table 4.

Table 4 First-stage model of Heckman selection model (factors predicting the likelihood of competitive actions)

Dependent variable	Model 1 Competitive action dummy
Firm age (log)	−0.34***
	(0.01)
Firm size (log)	0.89***
	(0.00)
Tobin's Q	0.45***
	(0.00)
ROA	−0.14
	(0.52)
Leverage	−0.62***
	(0.00)
Financial slack	−0.00
	(0.98)
Non-family blockholder ownership	−0.27
	(0.12)
Family ownership	−0.19
	(0.29)
Family CEO presence	0.26***
	(0.01)
Founder CEO presence	−0.04
	(0.56)
Business group (log)	0.13**
	(0.02)
Political ties	0.14
	(0.38)
% Non-family boards	0.15
	(0.44)
Board size (log)	−0.04
	(0.80)
R&D intensity	5.51***
	(0.00)
Advertising intensity	8.46***
	(0.00)
Export intensity	−0.09
	(0.32)
International diversification (log)	0.05
	(0.31)
Market share	−0.01
	(0.85)
Industry concentration	0.88
	(0.34)
Industry growth	−0.06

Table 4 (continued)

Dependent variable	Model 1 Competitive action dummy
	(0.54)
Industry dynamism	0.89**
	(0.02)
PPE expense ratio	0.82**
	(0.01)
Historical pursuit of competitive actions	0.58***
	(0.00)
Year dummies	Incl
Constant	−7.98***
	(0.00)
Log likelihood	−3825.95
Observations	8,108

$*p < 0.10$, $**p < 0.05$, $***p < 0.01$; p values are reported in parentheses; robust standard errors are used

Declarations

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