Journal of Business Research 126 (2021) 88–98

Contents lists available at ScienceDirect

Journal of Business Research

journal homepage: www.elsevier.com/locate/jbusres

The value of marketing innovation: Market-driven versus market-driving

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ARTICLE INFO

Keywords:
Marketing innovation
Market-driven
Market-driving
Market dynamism
Firm value

ABSTRACT

In recent years, significant managerial attention has been paid to marketing innovation; however, the academic literature has remained silent on the value of marketing innovation and often assumes that it is too trivial and tactical to create a substantial impact on firm value. This study attempts to address the research gaps by answering two research questions: (1) Does marketing innovation increase firm value? and (2) if yes, how does marketing innovation add value to firms? Building upon market orientation theory and the marketing-finance interface literature, we classify two types of marketing innovation—market-driven and market-driving—and assess their impact on firm value through the mediating effects of cash flow drivers and investigate how such an impact is influenced by the three market forces—demand uncertainty, technological turbulence, and competitive intensity. With a large panel dataset consisting of 4772 new products in the consumer-packaged-goods (CPG) industries from 1985 to 2010, our study reveals that market-driving marketing innovation, which is associated with the effectiveness of firm value creation, contributes six-fold more to firm value than market-driven marketing innovation, which is associated with the efficiency of firm value creation. This study also reveals the differential moderating effects of the three market forces: when an industry faces high demand uncertainty, both types of marketing innovation strengthen their positive impact on firm value; in an industry marked by technological turbulence, only market-driving marketing innovation increases firm value; but, in an intensely competitive industry, only market-driven marketing innovation increases firm value.

1. Introduction

In recent years, significant managerial attention has been paid to marketing innovation, which is the implementation of new marketing methods that involve significant changes in product packaging, placement, promotions, or pricing to market a product, but do not invoke any changes in the core product (OECD, 2005; 2018). A recent global innovation survey revealed that more firms have introduced marketing innovation since the economic downturn in 2008, with the percentage of firms that use marketing innovation rising from 30.4% in 2008 to 37% in 2014 (UNESCO, 2014). Similarly, a recent chief marketing officer survey showed that over 600 global marketing leaders made marketing innovation a top priority for their firms, with two-thirds of them expecting budget increases in marketing innovation in 2019 (Pemberton, 2018). If chief marketing officers want "a seat at the table" in the boardroom to get financial support for marketing innovation (Lehmann, 2004), they need to show evidence of whether and how marketing innovation influences firm value, which is a forward-looking metric associated with investors' expectations (Rubera & Kirca, 2012; Sorescu & Spanjol, 2008; Srivastava et al., 1998).

The growing trend of marketing innovation reveals that marketing managers expect marketing innovation to positively affect firm value (Sorescu & Spanjol, 2008), but there has been little systematic and empirical research aiming to understand whether and how marketing innovation affects firm value. Specifically, the literature (see Table 1 for a literature review) has largely conceptualized innovation based on technological advancement (e.g., Tellis et al., 2009), such as "radically new technologies" (Tellis et al., 2009; p. 19), and assumed that marketing innovation is too trivial and tactical to create a substantial impact on firm value because marketing innovation can be easily imitated (Chen, 2006). Some studies have taken a mixed view of innovation by treating innovation as a combination of technological and marketing innovation, ignoring the important and unique contribution of marketing innovation to firm value (e.g., Pauwels et al., 2004; Sorescu & Spanjol, 2008). Although a few recent studies have acknowledged marketing innovation as a separate source of innovation, they have

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https://doi.org/10.1016/j.jbusres.2020.12.067
Received 17 October 2019; Received in revised form 22 December 2020; Accepted 26 December 2020
Available online 5 January 2021
0148-2963/Published by Elsevier Inc.

emphasized its complementary benefits to other types of innovation, such as technological innovation (Grimpe et al., 2017) and product innovation (Lee et al., 2019). In an inquiry into the extant literature, Sorescu and Spanjol (2008, p. 128) identified that "marketing innovation is just as worthy of attention in the boardroom" and highlighted "the need for theory development and empirical research" regarding the effects of marketing innovation on firm value.

This paper attempts to fill this gap by addressing two research questions: (1) Does marketing innovation increase firm value? and (2) if yes, how does marketing innovation add value to firms? Drawing from the marketing-finance interface and market orientation literature (e.g., Jaworski & Kohli, 1993; Jaworski et al., 2000; Srinivasan & Hanssens, 2009; Srivastava et al., 1998), we differentiate two types of marketing innovation (i.e., market-driven and market-driving) and formulate a conceptual model to study how these two types of marketing innovation affect firm value through the four cash flow mediators (current cash flow level, current cash flow speed, current cash flow volatility, and potential future cash flow) moderated by the three forces of market dynamism (demand uncertainty, technological turbulence, and competitive intensity).

Building on market orientation theory, we differentiate *market-driven* and *market-driving* marketing innovation (Jaworski et al., 2000). Market-driven marketing innovation accepts the market structure and behavior as given and represents a firm's passive learning to respond to market demand in an existing market (Day, 1994; Jaworski & Kohli, 1993; Narver et al., 2004); whereas, market-driving marketing innovation shapes the structure or behavior in a new market and involves the firm being visionary to predict future market demand (Hills & Sarin, 2003; Jaworski et al., 2000; Kumar et al., 2000). Both market-driven and market-driving marketing innovation reveal how consumer and market information are applied in innovation and also represent two strategic orientations that influence firm value differently.

We draw from the marketing-finance interface literature to study how market-driven and market-driving marketing innovation differentially increase firm value through the four cash flow drivers—the level, speed, and volatility of the current cash flow and the potential future cash flow (Srinivasan & Hanssens, 2009; Srivastava et al., 1998). Both market-driven and market-driving marketing innovation can trigger the four cash flow drivers to affect firm value (Srinivasan et al., 2009), but we anticipate that market-driven marketing innovation is associated with the efficiency route of firm value creation via increasing the speed and reducing the volatility of the current cash flow, whereas market-driving marketing innovation is associated with the effectiveness route of firm value creation through increasing the levels of the current cash flow and potential future cash flow.

We further reveal that market-driven and market-driving marketing innovation differentially affect firm value through the moderating effects of the three market forces. Market orientation theory suggests that both market-driven and market-driving marketing innovation integrate internal and external resources and act as effective methods for responding to different forces of market dynamism with fast-changing consumer preferences (demand uncertainty), rapid technological advancement (technological turbulence), and increasingly intense competition (competitive intensity) within or across industries (Jaworski & Kohli, 1993). Understanding how market-driven and market-driving marketing innovation can enable firms to cope with different

Table 1
Literature review.

Studies	Perspective	Innovation Types	Dependent Variable	Context	Related Findings
Chandy and Tellis (1998)	Mixed	Radical innovation	Radical innovation	Computer hardware, photonics, and telecommunication	Willingness to cannibalize is a stronger predictor of radical innovation than product championship or future-market focus.
Chandy and Tellis (2000)	Mixed	Radical innovation	Radical innovation	Consumer durables and office products	The combination of firm size and incumbency better predicts radical innovation.
Pauwels et al. (2004)	Mixed	Product innovation	Firm value; Firm revenues; Firm earnings	Automobile	Product innovations have a positive short- and long-term impact on firm value, revenues, and earnings.
Sorescu and Spanjol (2008)	Mixed	Breakthrough innovation; Incremental innovation	Firm value; Abnormal returns; Firm risk	Consumer packaged goods	Breakthrough innovations significantly increase firm value, abnormal returns, and firm risk; incremental innovations only increase firm value.
Srinivasan et al. (2009)	Mixed	New to the firm; New to the market	Stock returns	Automobile	Pioneering innovations drive more stock returns than minor updates.
Tellis et al. (2009)	Mixed	Radical innovation	Firm value	Manufacturing	Corporate culture is a stronger predictor of radical innovation than government policy, labor, and capital.
Sorescu et al. (2003)	Separated	Technological breakthrough; Market breakthrough	Net present value (NPV)	Pharmaceutical	Market breakthrough generates significant NPV, and there are no significant differences between the NPVs of technological and market breakthroughs.
Zhou et al. (2005)	Separated	Technology-based innovation; Market-based innovation	Firm performance (sales growth, ROI, profit, market share); Product performance (quality, customer value)	Consumer durable and nondurable products	Market-based innovations have positive effects on firm and product performance; Technology-based innovations have stronger effects than market-based innovations on both firm and product performance.
Grimpe et al. (2017)	Separated	Technology innovation; Marketing innovation	Firm sales	Manufacturing and services	Investments in marketing innovation have a positive impact on product sales for small and high-tech firms.
Ungerman et al. (2018)	Separated	Marketing innovation	Firm performance	Enterprises using Industry 4.0	Marketing innovation increases the competitiveness and productivity of the firm.
Lee et al. (2019)	Separated	Product innovation; Process innovation; Marketing innovation; Organizational innovation	Firm performance (percentage of total turnover)	Manufacturing and services	Marketing innovation positively moderates the relationship between a new product and firm performance for high-tech firms.

dynamic market conditions constitutes a critical issue for firms.

We conducted an empirical investigation using a large panel dataset of 4772 new products in the U.S. consumer-packaged-goods (CPG) sector over 26 years from 1985 to 2010. With a sample of 290 publicly traded firms, we aggregated market-driven and market-driving marketing innovation at the firm-year level to assess their impact on firm value through the level, speed, and volatility of the current cash flow and the potential future cash flow. Additionally, we examined the moderating effects of the three market forces—demand uncertainty, technological turbulence, and competitive intensity—between market-driven and market-driving marketing innovation and firm value.

The primary contribution of this study is to fill the knowledge gap in understanding the relationship between marketing innovation and firm value, a metric that accounts for the current and future value of marketing innovation (Srivastava et al., 1998). Previous studies have linked marketing innovation to the current value of market performance, including new product sales (Grimpe et al., 2017), sales growth (Zhou et al., 2005), profits (Chen, 2006), and net present value (Sorescu et al., 2003), concluding that marketing innovation is either too trivial to generate long-term value for a firm (Chen, 2006) or only effective as a complementary tool to enhance other types of innovation (Grimpe et al., 2017; Lee et al., 2019). Our study suggests a different story and reveals that marketing innovation can be a powerful contributor to firm value.

Second, we advance the current literature on marketing innovation (Grimpe et al., 2017; Sorescu & Spanjol, 2008; Ungerman et al., 2018) by extending the theoretical development of distinguishing market-driven and market-driving marketing innovation. Given the role of consumer and market information in generating marketing innovation (Grimpe et al., 2017; OECD, 2018), we suggest that marketing innovation is a type of market-oriented innovation, and the distinction between market-driven and market-driving marketing innovation reveals two different market orientation strategies with corresponding capabilities based on market orientation theory (e.g., Hills & Sarin, 2003; Jaworski et al., 2000).

Third, our findings highlight the distinct roles of market-driven and market-driving marketing innovation in building firm value. The marketing-finance interface literature assumes that the transpiration of innovation strategy to firm value takes place through the full mediation links of the four cash flow drivers (Pauwels et al., 2004; Sorescu & Spanjol, 2008; Srinivasan et al., 2009; Tellis et al., 2009). However, we find that market-driven and market-driving marketing innovation impact firm value through two different respective paths. Specifically, market-driven marketing innovation impacts firm value through increasing the speed and reducing the volatility of the current cash flow, whereas market-driving marketing innovation affects firm value through enhancing the levels of current and potential future cash flows. Our study implies that firms can flexibly choose between a market-driven or market-driving marketing innovation strategy based on their priority to maximize the efficiency or effectiveness route of firm value to meet shareholders' expectations.

Fourth, our findings offer actionable insights as to how market-driven and market-driving marketing innovation allows firms to cope with different aspects of market dynamism. Both market-driven and market-driving marketing innovation are salient in addressing increased demand uncertainty. Market-driving marketing innovation is more effective in a highly technologically turbulent market, whereas market-driven marketing innovation is more beneficial in the face of intense competition.

The remainder of the paper is structured as follows: First, we provide the theoretical background and develop the hypotheses. Next, we introduce the research design and present the analysis results. Then, we discuss the findings, implications, and conclusions. Finally, limitations and future research directions are provided.

2. Theoretical background

2.1. Marketing innovation and firm value

Marketing innovation implements new marketing methods, including product packaging design, placement, promotion, or pricing to market a product (OECD, 2005, 2018). Specifically, packaging design entails making alterations to the form or appearance of a product's packaging while not altering the functionalities of the core product (Bloch, 1995). Placement, promotion, and pricing innovation create new marketing concepts to merchandise the product (OECD, 2018).

We are interested in whether marketing innovation can increase firm value, a forward-looking measure of investors' expectations regarding current and future firm performance, through a firm's innovation strategy (Rubera & Kirca, 2012; Srinivasan & Hanssens, 2009; Srivastava et al., 1998). When a new product enters the market, investors often adjust stock prices according to their expectations regarding its tangible current revenue and intangible value, which is related to its potential to generate future returns (Geroski et al., 1993; Rubera & Kirca, 2012).

According to the marketing-finance interface literature (e.g., Srinivasan & Hanssens, 2009), marketing innovation influences investors' outlooks regarding firm value through four cash flow drivers—the *level, speed, volatility of the current cash flow (tangible revenues)* and the *potential future cash flow (intangible value)* (Srinivasan et al., 2009; Srivastava et al., 1998). Marketing innovation enhances the current cash flow level (more current cash) by creating a new segment of customers or charging a premium price point (Jaworski et al., 2000; Kumar et al., 2000). Marketing innovation can accelerate cash flow (faster current cash) by reducing the amount of time-to-market launch (Grimpe et al., 2017; Narver et al., 2004), thereby speeding up the current cash flow. Moreover, marketing innovation can generate stable cash flow (safer, more stable current cash) by constantly refreshing the market to reduce uncertainty and volatility (OECD, 2018; Zhou et al., 2005). Lastly, marketing innovation can increase the potential future cash flow of a firm (more future cash) by increasing its intangible brand equity through building customer awareness and association with its brand (Bloch, 1995; Gupta et al., 2016).

The initiation of the four cash flow drivers in terms of marketing innovation represents two different routes of firm value creation. The speed and volatility of the current cash flow indicate the process of generating revenues and profits and have been considered to be associated with the efficiency route of firm value creation (Srivastava et al., 1998); whereas, the current cash flow and potential future cash flow levels are related to the outcome of generating revenues and profits and have been considered to represent the effectiveness route of firm value creation (Srivastava et al., 1998). Understanding whether and how marketing innovation maximizes the efficiency and/or effectiveness routes of firm value creation can provide a comprehensive examination of marketing innovation's impact on firm value, expanding the existing marketing-finance interface literature stream that explores the transpiration of an innovation strategy to firm value without theoretically distinguishing between these routes and testing them empirically.

2.2. Marketing innovation and market orientation

The development of marketing innovation requires the input of customer and market information to fulfill customer needs (OECD, 2005) and reflects a firm's strategic orientation to market information (Atuahene-Gima, 1996; Javanmard & Hasani, 2017; Laforet, 2008). Building on market orientation theory (Jaworski et al., 2000), we distinguish two types of marketing innovation: *market-driven* and *market-driving*. Market-driven marketing innovation accepts the market structure and behavior as given and represents a firm's passive learning to respond to market demand in an existing market (Day, 1994; Jaworski & Kohli, 1993; Narver et al., 2004). For example, Coca-Cola's innovative "Share a Coke" promotional campaign (i.e., innovative

promotion), which serves the existing Coke market segment and does not change the existing soda market structure or behavior, is a market-driven marketing innovation. Whereas, market-driving marketing innovation shapes the market structure or behavior in a new market and is visionary to predict future market demand (Hills & Sarin, 2003; Jaworski et al., 2000; Kumar et al., 2000). For instance, Tide Pod's 3-in-1 packet design (i.e., innovative packaging design) opened a new unit-dose detergent market and changed the market structure by leading to the addition of new competitors, such as Arm & Hammer's Crystal Burst Detergent Pod, Ariel's Detergent Pod, and Persil's Detergent Pod.

Market-driven and market-driving marketing innovation represent two different orientations to utilizing customer and market information (Jaworski & Kohli, 1993; Jaworski et al., 2000) and display significant differences at the customer, product, and market levels (Hills & Sarin, 2003; Narver et al., 2004) (see Table 2). At the customer level, they differ in whether they can drive changes in customer needs, preferences, behaviors in existing versus new market segments (Jaworski et al., 2000; Kumar et al., 2000). Market-driven marketing innovation is aimed at satisfying expressed customer needs and offering similar product benefits to an existing customer segment without changing customer preferences or behaviors (Narver et al., 2004). Whereas, market-driving marketing innovation is designed for identifying latent customer needs that are not apparent to existing customers (Narver et al., 2004) and driving a new target market segment to shape consumer preferences and behaviors (Jaworski et al., 2000).

At the product level, market-driven and market-driving marketing innovation differ in the extent of the business system employed, the type of learning involved, and the degree of innovativeness of the marketing method (Hills & Sarin, 2003; Kumar et al., 2000). Market-driven marketing innovation relies on an existing business system (Kumar et al., 2000), exploits existing knowledge in product and marketing domains (Hills & Sarin, 2003), and involves incrementally new marketing methods to commercialize a product (Kumar et al., 2000). In contrast, market-driving marketing innovation requires a configuration of a new internal business system and explores new knowledge to deliver a radically new marketing concept or method (Hills & Sarin, 2003; Kumar et al., 2000).

At the market level, market-driven and market-driving marketing innovation are distinguished by whether they can change competitors' preferences and behaviors, and whether they may permanently change the industry structure (Hills & Sarin, 2003; Jaworski et al., 2000). Market-driven marketing innovation does not change the behaviors or preferences of competitors in an existing market (Jaworski et al., 2000), but market-driving marketing innovation can reshape, educate, and lead customer preferences and behaviors in a new direction (Jaworski et al., 2000), which consequently compels other competitors to alter their behaviors in response (Hills & Sarin, 2003).

Table 2
Differences Between Market-Driven and Market-Driving Marketing Innovation.

Level	Dimensions	Market-Driven Marketing innovation	Market-Driving Marketing innovation
Customer	Target customer segments	Existing	New
	Customer needs	Expressed	Latent
	Changing customer behavior/preference	No	Yes
Product	Innovativeness	Incremental	Radical
	Business system employed	Existing	New
	Learning	Exploitation	Exploration
Market	Changing competitor behavior/preference	No	Yes
	Changing industry structure	No	Yes

2.3. Marketing innovation and market dynamism

The market orientation literature further suggests that, because marketing innovation stems from gathering, disseminating, and coordinating external market information to make strategic decisions (Jaworski & Kohli, 1993; Jaworski et al., 2000), the impact of marketing innovation on firm value is contingent upon market dynamism, which reflects changes in external market information (Jaworski & Kohli, 1993; Slater & Narver, 1994). The literature establishes three forms of market dynamism: *demand uncertainty*, the rate of change in customer preferences and expectations; *technological turbulence*, the rate of technological change in an industry; and *competitive intensity*, the extent of competition in an industry (Jaworski & Kohli, 1993). They represent the influences of customers, technology, and competition in the market, respectively (Li & Calantone, 1998). As two distinctive types of market orientation, market-driven and market-driving marketing innovation likely strengthen or weaken firm value when they are used to address correspondingly unique aspects of market dynamism. Fig. 1 shows our conceptual framework.

3. Hypotheses

3.1. The main effects of marketing innovation on firm value

3.1.1. Market-driven marketing innovation

We posit that market-driven marketing innovation impacts firm value mainly by facilitating the cash flow efficiency via accelerating the speed and lowering the volatility of the current cash flow. Market-driven marketing innovation can accelerate the current cash flow speed because it shortens both the product-to-market launch time and market penetration time. As shown in Table 2, its implementation via an existing business system and exploitative learning can speed up the market launch time (Jaworski et al., 2000). Since it also targets existing customer segments, customers can respond to the market-driven marketing innovation more quickly (Narver et al., 2004). Moreover, market-driven marketing innovation can lower the volatility of the current cash flow by promoting stability in terms of development and operation. Since market-driven marketing innovation involves exploitative learning in existing customer segments familiar to a firm, it incurs less market research costs for development (Jaworski et al., 2000). As existing customer segments make up a primary revenue source for the firm (Hills & Sarin, 2003), market-driven marketing innovation can generate stable cash flow to support their regular operation. In sum, market-driven marketing innovation can significantly accelerate the current cash flow speed and lower the cash flow volatility, resulting in a positive effect on firm value. We hypothesize that:

H_{1a}: Market-driven marketing innovation has a positive impact on firm value by accelerating the speed and lowering the volatility of the current cash flow.

3.1.2. Market-driving marketing innovation

We argue that market-driving marketing innovation influences firm value largely through enhancing the cash flow effectiveness by increasing the current and future cash flow levels. Specifically, market-driving marketing innovation can increase the current cash flow level by adding a new revenue stream. As Table 2 shows, market-driving marketing innovation creates a new market via making the focal firm being a first-mover to disrupt an industry with a radically new marketing concept (Hills & Sarin, 2003), thus not only providing a new cash cow to the pioneering firm but also enabling it to charge a premium price point to obtain higher profits without competing offerings (Kumar et al., 2000). Moreover, market-driving marketing innovation can produce potential future cash flow because it can build long-term intangible value to enable future purchases from customers in the new market segment (Srivastava et al., 1998). As customers tend to form stronger relationships with a pioneering firm that enters a new market segment

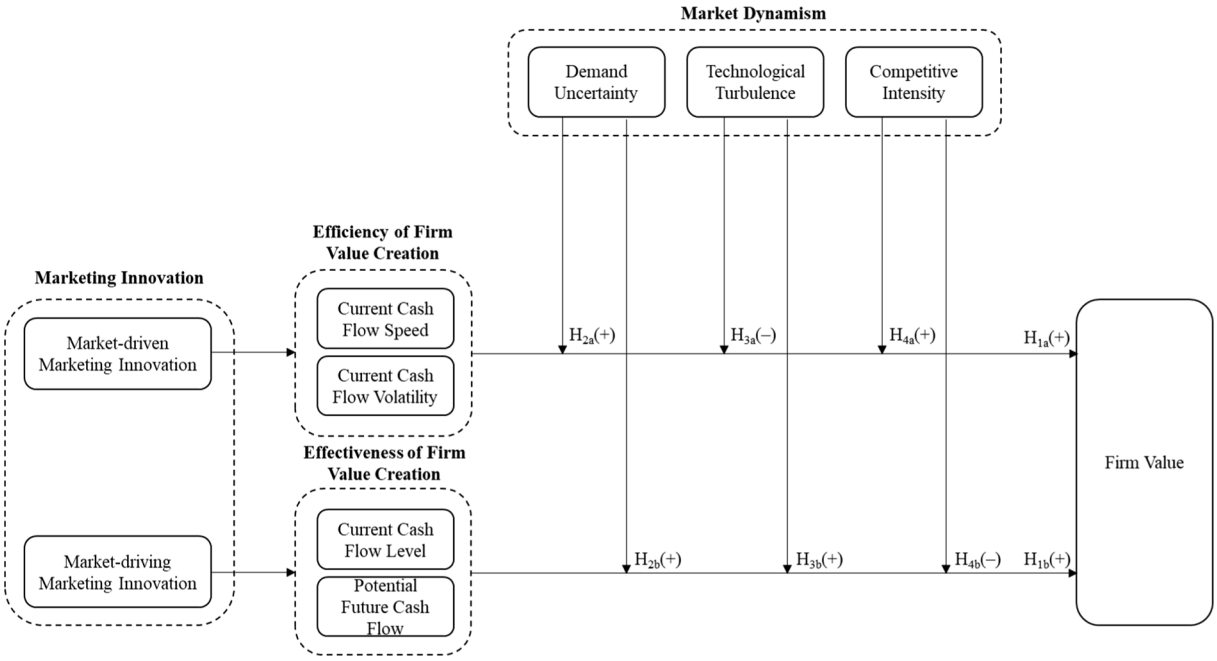

Fig. 1. Theoretical framework,

with a radically new marketing concept (Carpenter & Nakamoto, 1989), market-driving marketing innovation can establish the long-lasting intangible brand value that leads to cross-selling or up-selling future offerings to customers (Kardes & Kalyanaram, 1992), resulting in more future cash flows for the firm. In summary, market-driving marketing innovation can enhance the current and future cash flow levels, and we hypothesize that:

H_{1b}: Market-driving marketing innovation has a positive impact on firm value by increasing the current and future cash flow levels.

3.2. The moderating effects of market dynamism

We refer to the well-developed contingency framework in the market orientation literature to further investigate how the three forces of market dynamism moderate the effects of the two types of marketing innovation on firm value based on their differences, as illustrated in Table 2.

3.2.1. Demand uncertainty

Demand uncertainty refers to the instability of customer needs and preferences (Jaworski & Kohli, 1993). When demand is uncertain, customer preferences and needs change rapidly and are unpredictable in an industry, necessitating innovation to address them (Zhou et al., 2005). We argue that, because market-driven marketing innovation satisfies expressed needs and market-driving marketing innovation fulfills latent needs, and both communicate significant benefits to customers; thus, their contributions to firm value are strengthened by demand uncertainty.

Targeting expressed customer needs in existing markets (Narver et al., 2004), market-driven marketing innovation can increase the probability of meeting more changing customer preferences, retaining more customers, and successfully defending a firm's cash flow performance in its existing markets (Day, 1994). On the other hand, market-driving marketing innovation can cater to unpredictable customer needs by exploring latent needs and creating a new marketing concept to proactively reshape, educate, and lead customers to form a stable preference towards this concept (Hills & Sarin, 2003), resulting in a new revenue source as well as brand awareness and association in new customer segments (Carpenter & Nakamoto, 1989). Thus, we predict that:

H_2: When demand uncertainty increases, the impact of (a) market-driven marketing innovation and (b) market-driving marketing innovation on firm value will be strengthened.

3.2.2. Technological turbulence

Technological turbulence refers to the rate of technological advances within an industry (Jaworski & Kohli, 1993). When technology evolves rapidly in an industry, more technologically new products are made available in the marketplace, and product offerings with old technologies become obsolete quite quickly (Sood & Tellis, 2005).

We argue that market-driven and market-driving marketing innovation perform differently in an industry with high technological turbulence. Market-driven marketing innovation that relies on an existing business system and exploits new opportunities from existing market segments creates an incrementally innovative marketing method to market the product (Hills & Sarin, 2003); thereby, customers may perceive the benefits of market-driven marketing innovation as less innovative and compelling than other technological innovations emerging in the marketplace (Narver et al., 2004). On the contrary, market-driving marketing innovation that creates a new business system and explores a market opportunity in a new market segment gains a competitive advantage, because its radically innovative marketing method may be more visible, attractive, and appealing to customers than technologically new products that often gain customer skepticism and reluctance to adopt, particularly when the industry is advancing nascent technologies (Mohr et al., 2010). Therefore, we hypothesize that:

H_3: When technological turbulence increases, the impact of (a) market-driven marketing innovation on firm value will be weakened, while that of (b) market-driving marketing innovation on firm value will be strengthened.

3.2.3. Competitive intensity

Competitive intensity refers to the degree of competition that a firm faces within its industry (Jaworski & Kohli, 1993). When competition intensifies in an industry, more competitors offer similar products to compete for market share and sales, leading to aggressive competition in an industry's existing, mature market segments (McDougall et al., 1994). When the competition becomes more intense, defending one's

market share in existing markets is more important than growing new markets (McDougall et al., 1994).

We argue that market-driven and market-driving marketing innovation perform differently in an industry where competition intensifies. Market-driven marketing innovation is a more cost-efficient and effective strategy to quickly defend one's market share in an industry's existing, mature market segments (Gupta et al., 2016). When the competition is intense, defending one's market share in existing market segments through market-driven marketing innovation may lead to greater firm value than gaining a new competitive advantage by entering new market segments (Day & Wensley, 1988), because firms are subject to a limited capacity and limited resources to produce market-driving marketing innovation that requires substantial changes in market behaviors or structure (Hills & Sarin, 2003; Slater & Narver, 1994). In contrast, intense competition will diminish—but not eliminate—the effectiveness of market-driving marketing innovation, because fierce competition makes it more difficult to implement market-driving marketing innovation to successfully alter competitor behaviors, preferences, and industry structures to achieve successful market launch of the innovation (Hills & Sarin, 2003). Hence, we hypothesize that:

H_4: When competitive intensity increases, the impact of (a) market-driven marketing innovation on firm value will be strengthened, while that of (b) market-driving marketing innovation on firm value will be weakened.

4. Research design

4.1. Research context

The empirical setting for this study is the CPG sector—a key economic sector in the U.S. that has achieved an annual average growth rate of 10% over the decades (McKinsey & Company, 2011) and relied heavily on both technological and marketing innovation as a growth strategy (Sorescu & Spanjol, 2008). However, this sector is underrepresented in empirical innovation research, particularly in terms of marketing innovation. As Sorescu and Spanjol (2008, p.128) suggest, "marketing innovation is just as worthy of attention in the boardroom as technological innovation" in the CPG industries. Considering the economic importance of this sector and the dynamic markets that CPG firms face, explaining how marketing innovation contributes to firm value provides valuable insights for both CPG firms and academic researchers.

4.2. Data sources

We assembled a secondary panel dataset from three archival sources to test our hypotheses: Product Launch Analytics, COMPUSTAT, and ReferenceUSA. To construct the sample, we first collected all the new products launched in the U.S. CPG industries between 1985 and 2010 from Product Launch Analytics and matched the firms' names and standard industrial classification codes with the information in COMPUSTAT. The result generated 4772 innovations across 290 publicly traded firms, and we downloaded their financial and accounting data from COMPUSTAT. We used ReferenceUSA to supplement missing firm-level information from COMPUSTAT.

4.3. Measurements

4.3.1. Firm value

We measured firm value using Tobin's q, a stock price measure that represents a firm's market capitalization and is less easily manipulated by managers (Srinivasan & Hanssens, 2009). Following Chung and Pruitt (1994), we computed Tobin's q as the ratio of the market value to the book value of firm assets at the end of each calendar year.

4.3.2. Cash flow drivers

We measured the four cash flow drivers using the financial data from COMPUSTAT. *Cash flow level* was computed as a firm's net cash flows yearly (Jury, 2012); *cash flow speed* was measured as the average growth rate of the net cash flows in a year (Jury, 2012); *cash flow volatility* was operationalized as a firm's cash flow standard deviation normalized by the industry's cash flow standard deviation (Fornell et al., 2006); and *future cash flow* was calculated as a firm's abnormal return, which captures investors' unexpected intangible value of the firm that cannot be explained by its tangible profits (Jury, 2012).

4.3.3. Marketing innovation

Product Launch Analytics classifies new product innovation into six categories of innovation packaging, merchandising, new positioning, new market, formulation, and/or technology. We coded innovation in product packaging, merchandising, positioning or new market as marketing innovation, because they align with the definition of marketing innovation in not involving any new technologies to change the core product but change one or more of the marketing mix to market the product (OECD, 2005, 2018). Then, we coded each marketing innovation as market-driven or market-driving. Based on their differences shown in Table 2, we coded marketing innovation in terms of new positioning and new market as market-driving, since they drive a new market either through creating new positionings or opening new segments, and marketing innovation in packaging and merchandising as market-driven, since they are launched to serve existing market segments (see online Appendix A for the definitions and coding examples).[1]

To ensure the validity and reliability of our classification, we used both manual checking and descriptive analysis to verify our coding. First, we invited two experts with more than ten years of work experience in the CPG industries to manually checked the validity of our classification. We randomly subsampled 5% of our sample (n = 230) across the six innovation categories and asked the two experts to exclusively code each innovation as market-driven marketing innovation, market-driving marketing innovation, technological innovation, or mixed innovation based on the description of each innovation provided by the database. They were given formal definitions of the four types of innovation and corresponding examples. Then, we compared our expert coding with that of Product Launch Analytics and found a high average interrater reliability of 0.92. Second, to empirically assess the reliability of our classification, we conducted a descriptive analysis of all the coded innovations and found no overlap between market-driven (packaging and merchandising) and market-driving (new positioning and new market) marketing innovation in our sample, confirming that our coding of marketing innovation into types of market-driven and market-driving is exclusive.

4.3.4. Demand uncertainty

Following Han et al. (2017) and Keats and Hitt (1988), we first calculated industry sales by aggregating the sales of all the firms operating in the same industry under the same Standard Industrial Classification (SIC) code and regressed the industry sales on time in a five-year rolling time window. We used the standard error of the slope coefficient in each of these rolling regressions as the measure of demand uncertainty, with a high standard error indicating consumer preferences and behaviors (reflected in sales) changing rapidly and being unpredictable in the industry.

4.3.5. Technological turbulence

Following Saboo and Grewal (2013), we measured the ratio of the aggregated R&D expenditures to aggregated sales in the industry. We

[1] We coded an innovation in new technology or new formulation as a "technological innovation", because it changes the technical components of the core product (Sorescu & Spanjol, 2008). If an innovation is innovative in both marketing and technological sources, it was classified as a mixed innovation. Technological and mixed innovation were used as control variables in this study.

expected that highly technologically turbulent industries induce more R&D investments to generate the same amount of sales, typically stemming from a faster speed in technological evolution and more frequent technological updates in the industrial technical standards (Sood & Tellis, 2005; Terleckyj, 1980).

4.3.6. Competitive intensity

We computed competitive intensity using the widely applied Herfindahl index (e.g., Lee & Grewal, 2004), with which we squared the market shares of each firm and took the sum of all the firms in the same industry and subtracted it from 1. The closer the number is to 1, the more intense the competition in the industry, indicating the industry sales are widely distributed across many competitors.

4.3.7. Control variables

We included several control variables that likely affect firm value. First, we added firm variables that could affect a firm's innovation capability and firm value, including the number of technological and mixed innovations generated, firm size, firm age, advertising expenditures, and R&D expenditures. Second, as Tobin's q is a stock market performance measure, we also controlled for other financial factors, such as financial slack, fixed asset intensity, financial leverage, and operating margin. Third, to control for the regional effects of multinational firms, we counted the number of new product introductions in the nine regions of Africa, Asia, the Caribbean, Central America, Europe, the Middle East, North America, Oceania, and South America (Nielsen, 2016 (see online Appendix B for the descriptive statistics and correlations).

4.4. Model specification and estimation

Our unit of analysis was aggregated to the firm-year level, and we specified panel structure models to estimate our mediation and moderation models for the panel dataset. To do so, we paid special attention to model specification, especially in terms of multicollinearity, the stationarity of the dependent variable, reverse causality, state dependence, unobserved heterogeneity, and the endogeneity of our focal variables (Wooldridge, 2010).

First, we checked for multicollinearity problems among the coefficients of interest and found variance inflated factors (VIFs) for all the estimates ranging between 3.3 and 4.9, which are all lower than the threshold value of 10. Second, we checked whether our dependent variable—Tobin's q—was nonstationary or not, as this could bias the estimates. We conducted Fisher-type unit root tests to address the unbalanced panel structure; the significant outcome ($\chi^2 = 16.1071$, $p < .001$) indicated that nonstationary was not an issue in our sample (Choi, 2001). Third, we examined the reverse causality concern between Tobin's q (four cash flow drivers) and marketing innovation. We ran multiple Granger causality tests; none of the F-tests were significant ($p > .05$), suggesting that reverse causality was not a concern in our sample. Fourth, we added Tobin's q at the time t – 1 to control for state dependence (Jacobson, 1990). Fifth, we addressed unobserved heterogeneity. To account for unobserved firm heterogeneity, we ran Hausman's (1978) specification test, which suggests a fixed-effects panel-data model ($p < .05$). To address unobserved, time-variant effects, we included year dummies in the model. Finally, we used the common approach—instrumental variables—to resolve any endogeneity issue (Wooldridge, 2010). We used the lagged average counts of the market-driven, market-driving, technological, and mixed innovation of peer firms in the same industry as instrument variables to obtain the predicted value for each type of innovation at year t in our panel-data model (Han et al., 2017). After addressing the above estimation issues, we applied the fixed-effects panel-data models to test the mediation effects of the cash flow drivers and the moderation effects of market dynamism on firm value.

5. Results

5.1. The mediating effects of cash flow drivers

In our conceptual and hypotheses development, we argue that the impact of market-driven and market-driving marketing innovation on firm value is based on how they influence the cash flow drivers. Thus, we conducted a full mediation analysis to test the links among marketing innovation, the four cash flow drivers, and Tobin's q. The results are presented in Table 3.

Model 1 tests the direct effects of market-driving and market-driven marketing innovation on firm value. The results show that both market-driven ($\beta = 0.186$, $p < .05$) and market-driving ($\beta = 1.280$, $p < 0.01$) marketing innovation have significant, positive effects on Tobin's q, but market-driving marketing innovation is about six times more powerful in driving firm value than market-driven marketing innovation.

Model 2 tests the indirect effects of marketing innovation on firm value through the four cash flow drivers. The results reveal that market-driven marketing innovation positively affects the current cash flow speed ($\beta = 0.412$, $p < .001$) and significantly reduces the current cash flow volatility ($\beta = –0.513$, $p < .01$), but it does not significantly increase the current cash flow level ($\beta = 0.197$, *n.s.*) and potential future cash flow ($\beta = 0.166$, *n.s.*); in contrast, market-driving marketing innovation significantly increases both the current cash flow level ($\beta = 0.605$, $p < .01$) and potential future cash flow ($\beta = 0.790$, $p < .05$), but it does not significantly impact the current cash flow speed ($\beta = 0.852$, *n.s.*) or current cash flow volatility ($\beta = 0.299$, *n.s.*).

Further, in Model 3, we tested the full model for indirect and direct effects. The results suggest that all four cash flow drivers have a significant impact on Tobin's q with the expected signs ($\beta_{\text{current cash flow level}} = 0.066$, $p < .01$; $\beta_{\text{current cash flow speed}} = 0.032$, $p < .01$; $\beta_{\text{current cash flow volatility}} = -0.060$, $p < .001$; $\beta_{\text{potential future cash flow}} = 0.089$, $p < .01$), and both the direct effects of market-driven ($\beta = 0.115$, *n.s.*) and market-driving marketing innovation ($\beta = 0.775$, *n.s.*) became insignificant after controlling for the mediating effects of the four cash flow drivers.

Taken together, the results suggest that the four cash flow drivers fully mediate the relationships between marketing innovation and firm value. The impact of market-driven marketing innovation on Tobin's q is fully mediated by the current cash flow speed and volatility, while that of market-driving marketing innovation on firm value is fully mediated by the current cash flow level and potential future cash flow. To confirm these mediation effects, we followed Preacher and Hayes (2008) and obtained the bias-corrected confidence intervals. The bootstrapping estimation shows that the estimated confidence intervals of the indirect effects do not contain zero, confirming that the mediation effects are significant (Preacher & Hayes, 2008). Thus, we can conclude that both market-driven and market-driving marketing innovation do increase firm value but through different mediation paths, which is in support of H_{1a} and H_{1b}.

5.2. The moderating effects of market dynamism

We tested the moderating effects of the three market forces by creating the interaction terms between the three market forces and the two types of marketing innovation. The results are presented in Model 4 in Table 4.

5.2.1. Demand uncertainty

As Table 4 shows, the interaction between demand uncertainty and market-driven marketing innovation reveals a significant, positive effect on Tobin's q ($\beta = 0.066$, $p < .05$), supporting H_{2a}. We also find support for H_{2b}, because demand uncertainty positively moderates the strength of market-driving marketing innovation on firm value, with a significant, positive effect on Tobin's q ($\beta = 0.030$, $p < .05$).

Table 3
Mediating Effects of Four Cash Flow Drivers.

	Hypotheses	Model 1	Model 2				Model 3
		Tobin's $q_{i,t}$	Current Cash Flow $Level_{i,t}$	Current Cash Flow $Speed_{i,t}$	Current Cash Flow $Volatility_{i,t}$	Potential Future Cash $Flow_{i,t}$	Tobin's $q_{i,t}$
Independent Variables							
Market-driven$_{i,t}$	H_{1a}: supported	0.186(0.106)*	0.197(0.121)	0.412(0.131)***	−0.513(0.210)**	0.166(0.284)	0.115(0.397)
Market-driving$_{i,t}$	H_{1b}: supported	1.280(0.543)**	0.605(0.221)**	0.852(1.318)	0.299(0.400)	0.790(0.301)*	0.775(0.741)
Mediators							
Current cash flow $level_{i,t}$							0.066(0.021)**
Current cash flow $speed_{i,t}$							0.032(0.013)**
Current cash flow $volatility_{i,t}$							−0.060(0.019)***
Potential future cash $flow_{i,t}$							0.089(0.031)**
Controls							
Tobin's $q_{i,t-1}$		0.588(0.033)***	−0.010(0.026)	0.009(0.031)	−0.002(0.011)	0.009(0.012)	0.654(0.051)***
Mixed innovation$_{i,t}$		0.399(0.201)*	0.412(0.237)*	−1.376(0.751)*	0.397(0.388)	0.395(0.118)***	0.263(0.537)
Technological innovation$_{i,t}$		0.085(0.043)*	0.078(0.069)	−0.108(0.093)	0.027(0.070)	0.040(0.023)*	−0.029(0.059)
Firm size$_{i,t}$		−0.382(0.151)**	0.107(0.079)	0.074(0.098)	−0.075(0.055)	−0.014(0.038)	−0.517(0.154)***
Advertising expenditures$_{i,t}$		0.089(0.028)***	0.423(0.063)***	−0.014(0.016)	0.008(0.008)	0.025(0.012)*	0.120(0.050)**
R&D expenditures$_{i,t}$		−0.065(0.016)***	0.460(0.065)***	−0.011(0.008)	0.006(0.009)	0.030(0.025)	−0.082(0.030)**
Financial slack$_{i,t}$		0.010(0.030)	0.022(0.019)	0.005(0.028)	0.017(0.017)	−0.000(0.009)	0.053(0.033)*
Fixed asset intensity$_{i,t}$		0.020(0.040)	−0.021(0.029)	0.079(0.052)	0.017(0.034)	0.010(0.011)	0.040(0.040)
Financial leverage$_{i,t}$		−0.368(0.189)*	−0.005(0.005)	−0.010(0.005)*	0.002(0.008)	0.002(0.001)	0.142(0.004)***
Operating margin$_{i,t}$		0.150(0.061)**	0.005(0.003)	0.003(0.005)	−0.006(0.007)	−0.002(0.002)	0.004(0.004)
Firm age$_{i,t}$		0.006(0.042)	0.062(0.218)	−0.125(0.064)*	−0.033(0.037)	0.013(0.037)	−0.037(0.124)
Regions							
—Africa$_{i,t}$		–0.027(0.007)***	0.049(0.024)	0.010(0.011)	0.002(0.002)	−0.000(0.003)	–0.039(0.008)***
—Asia$_{i,t}$		–0.016(0.016)	0.016(0.035)	−0.072(0.059)	0.002(0.003)	0.010(0.006)	–0.066(0.028)**
—Caribbean$_{i,t}$		–0.002(0.002)	0.019(0.018)	0.006(0.004)	0.002(0.002)	0.001(0.005)	–0.003(0.002)
—Central American$_{i,t}$		0.005(0.008)	0.019(0.020)	0.003(0.010)	–0.005(0.009)	0.005(0.007)	0.005(0.007)
—Europe$_{i,t}$		–0.034(0.019)*	0.007(0.053)	0.028(0.032)	–0.004(0.008)	–0.001(0.008)	–0.005(0.030)
—Middle East$_{i,t}$		0.013(0.012)	0.016(0.029)	−0.003(0.015)	–0.007(0.005)	–0.011(0.006)*	0.013(0.021)
—North America$_{i,t}$		0.013(0.011)	–0.004(0.018)	0.098(0.033)	0.018(0.009)*	–0.003(0.004)	0.022(0.012)
—Oceania$_{i,t}$		0.007(0.012)	−0.015(0.029)	0.002(0.013)	0.003(0.005)	–0.006(0.006)	0.034(0.016)*
—South America$_{i,t}$		0.017(0.008)*	0.045(0.035)	0.013(0.015)	0.002(0.002)	0.005(0.007)	0.009(0.014)
Intercept		–0.328(0.065)***	–0.058(0.062)	–0.030(0.063)	–0.011(0.021)	0.004(0.014)	–0.040(0.163)
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes
Overall R^2		0.384***	0.779***	0.007***	0.002***	0.080***	0.536***

*$p < .05$, **$p < .01$, ***$p < .001$.

5.2.2. Technological turbulence

Technological turbulence is found to have a significant, negative effect on the relationship between market-driven marketing innovation and Tobin's q ($\beta = -0.261$, $p < .001$), but it positively moderates the strength of market-driving marketing innovation on Tobin's q ($\beta = 0.082$, $p < .001$). Thus, both H_{3a} and H_{3b} are supported.

5.2.3. Competitive intensity

In Table 4, competitive intensity is shown to positively moderate the effect of market-driven marketing innovation on Tobin's q ($\beta = 0.101$, $p < .01$). In contrast, the moderating effect of competitive intensity on the relationship between market-driving marketing innovation and Tobin's q is negative and significant ($\beta = -0.037$, $p < .05$). Accordingly, we find support for both H_{4a} and H_{4b}.

6. Discussions and implications

This study takes a systematic approach to examine whether and how marketing innovation impacts firm value. Specifically, we distinguish two types of marketing innovation—market-driven and market-driving—and investigate how they contribute to firm value through the four drivers of cash flow as well as how their impact on firm value is weakened or strengthened by the different forces of market dynamism.

Our findings suggest a different story of marketing innovation than that of the prior literature, which had stated that it is too trivial to generate a substantial impact on firm value (Chen, 2006). Instead, our result reveals that marketing innovation does indeed increase firm value. Specifically, a 1% increase in market-driving marketing innovation leads to an approximately 1.3% increase in firm value, and a 1% increase in market-driven marketing innovation leads to an approximately 0.2% increase in firm value. As CMOs today feel it is imperative

Table 4
Moderating Effects of Market Dynamism.

	Hypotheses	Model 4 Tobin's $q_{i,t}$
Main Effects		
Market-driven$_{i,t}$		0.374(0.094)***
Market-driving$_{i,t}$		1.557(0.571)**
Moderating Effects		
Demand uncertainty$_{j,t}$		−0.006(0.017)
Technological turbulence$_{j,t}$		0.050(0.076)
Competitive intensity$_{j,t}$		0.056(0.033)*
Demand uncertainty$_{j,t}$ × Market-driven$_{i,t}$	H_{2a}: supported	0.066(0.037)*
Demand uncertainty$_{j,t}$ × Market-driving$_{i,t}$	H_{2b}: supported	0.030(0.018)*
Technological turbulence$_{j,t}$ × Market-driven$_{i,t}$	H_{3a}: supported	−0.261(0.061)***
Technological turbulence$_{j,t}$ × Market-driving$_{i,t}$	H_{3b}: supported	0.082(0.023)***
Competitive intensity$_{j,t}$ × Market-driven$_{i,t}$	H_{4a}: supported	0.101(0.036)**
Competitive intensity$_{j,t}$ × Market-driving $_{i,t}$	H_{4b}: supported	−0.037(0.020)*
Controls		
Tobin's $q_{i,t-1}$		0.580(0.032)***
Mixed innovation$_{i,t}$		0.470(0.186)**
Technological innovation$_{i,t}$		0.092(0.041)*
Firm size$_{i,t}$		−0.381(0.156)**
Advertising expenditures$_{i,t}$		0.085(0.028)**
R&D expenditures$_{i,t}$		−0.084(0.017)***
Financial slack$_{i,t}$		0.011(0.030)
Fixed asset intensity$_{i,t}$		0.022(0.040)
Financial leverage$_{i,t}$		−0.385(0.182)*
Operating margin$_{i,t}$		0.154(0.059)**
Firm age$_{i,t}$		0.004(0.039)
Regions		
—Africa$_{i,t}$		–0.028(0.007)***
—Asia$_{i,t}$		–0.018(0.016)
—Caribbean$_{i,t}$		−0.001(0.002)
—Central American$_{i,t}$		0.011(0.010)
—Europe$_{i,t}$		−0.033(0.019)*
—Middle East$_{i,t}$		0.013(0.012)
—North America$_{i,t}$		0.017(0.011)
—Oceania$_{i,t}$		0.007(0.012)
—South America$_{i,t}$		0.014(0.009)
Intercept		–0.422(0.065)***
Year dummies		Yes
Overall R^2		0.415***

*$p < .05$, **$p < .01$, ***$p < .001$.

to justify investment in marketing innovation as acting in shareholders' interests (Pemberton, 2018), our findings provide them with evidence to make a strong statement to the board regarding marketing innovation. Also, our study suggests that marketing innovation can generate both current revenues and future profitability for firms. Because the benefits of the marketing innovative features (e.g., an aesthetic package design, a dynamic pricing strategy, a viral promotional campaign) are highly visible and can be easily understood by customers (OECD, 2005), marketing innovation can quickly arouse customer interest and boost immediate sales (Grimpe et al., 2017). On the other hand, marketing innovation has the potential for generating future profitability because of its long-lasting branding effects (Rubera & Kirca, 2012). Some sensory characteristics of marketing innovation (e.g., a pioneering package design like the 3-in-1 Tide Pod) can become remarkable memory cues that help establish long-term brand associations between the brand and customers (Bloch, 1995), which enables the future up-selling or cross-selling of products and incurs the word-of-mouth expansion of a future customer base (OECD, 2018). Therefore, managers should realize that marketing innovation is more than a short-term strategy to obtain current revenues (Chen, 2006) but can also act as a long-term strategy to expand future revenues and profitability.

Furthermore, our findings advance the current literature in terms of the further theoretical development of marketing innovation (Grimpe et al., 2017; Sorescu & Spanjol, 2008; Ungerman et al., 2018) by differentiating between market-driven and market-driving based on market orientation theory (e.g., Hills & Sarin, 2003; Jaworski et al., 2000). Specifically, our empirical findings show that market-driving marketing innovation contributes to firm value six times more than market-driven marketing innovation, implying that market-driving marketing innovation strategy is more effective in firm value creation and can result in exceeding shareholders' expectations.

Also, our findings highlight the distinct roles of market-driven and market-driving marketing innovation in building firm value through two different routes. We find that market-driven marketing innovation increases the efficiency of firm value generation by accelerating the current cash flow speed and reducing the current cash flow volatility, whereas market-driving marketing innovation enhances the effectiveness of firm value creation by increasing the current cash flow level and the potential future cash flow. These findings enrich the literature exploring the transpiration of an innovation strategy to firm value by clearly revealing the difference in the underlying mediation mechanisms between innovation strategy and firm value via the four cash flow drivers (Pauwels et al., 2004; Sorescu & Spanjol, 2008; Srinivasan et al., 2009; Tellis et al., 2009). They also imply that firms can flexibly choose different types of marketing innovation strategies based on their priority to maximize either the efficiency or effectiveness of their value creation to meet shareholders' expectations. If the firm's strategic vision is oriented toward current profitability, managers can utilize market-driven marketing innovation to quickly bring in more revenues more safely—although its main effect is minor. For example, Coca-Cola's "Share a Coke" promotional campaign, a market-driven marketing innovation, led to a small increase in sales for the first time in the firm's current mature soda market (McQuilken, 2014). If a firm is more future-oriented, thus seeking new areas to grow its revenues and profits, market-driving marketing innovation will be a better option. For instance, Tide Pod, a market-driving marketing innovation featuring the innovative 3-in-1 pod design, helped Procter & Gamble increase its firm value by five cents per share (Monk, 2012) and claim 78% of the market share in the new unit-dose laundry market (Monk, 2016).

Lastly, our findings offer actionable managerial insights regarding deciding on which type of marketing innovation to cope with different forces of market dynamism. When demand uncertainty is high in the marketplace, managers can leverage market-driven and/or market-driving marketing innovation to enhance firm value. Market-driven marketing innovation consumes fewer resources to develop within a firm's existing market (Narver et al., 2004), whereas market-driving marketing innovation results in new profit streams, but its development in new markets may cost more effort and take more time (Carpenter & Nakamoto, 1989). Regarding a firm's resource-leverage capability under the stress of increased demand uncertainty, managers should make a deliberate decision to leverage both types of marketing innovation or focus on one type.

Regarding increasing technological turbulence in the market, managers can introduce more market-driving marketing innovation to enhance firm value. When a company resides in a turbulent market characterized by technological advancement, managers should realize that market-driving marketing innovation has greater potential to compete for customer attention and satisfaction than market-driven marketing innovation in the context of emerging technologically new products, because its radical innovativeness in marketing may please mainstream customers who are late in terms of adoption and get frustrated trying new technologies (Mohr et al., 2010). For instance, in the turbulent PC market, Dell's direct selling program, a market-driving marketing innovation, helped the firm enjoy higher-than-industry-average profit margins (Chopra, 2007); in contrast, its introduction of colorful cover design for Inspiron laptops, a market-driven marketing innovation, failed to increase profits (OECD, 2005).

Regarding intense competition, our findings imply that market-

driven marketing innovation is more of a strategic imperative to defend firm value than market-driving marketing innovation. Market-driven marketing innovation helps defend market shares in existing markets that often make up a firm's primary revenue sources and are crucial to be protected when fierce competition tends to destroy it (McDougall et al., 1994). While market-driving marketing innovation produces overall larger gains due to its differentiation benefits, fierce competition diminishes its effectiveness and may also increase the complexity in simultaneously efficiently allocating resources to support market-driving and sustain the firm's core, existing markets (Jaworski et al., 2000). Thus, when competition intensifies, managers should focus on market-driven marketing innovation to secure their core revenue sources.

7. Limitations and future research

We need to acknowledge several limitations of this study and gaps for future research. First, we use the counts of market-driven and market-driving marketing innovation to examine their overall impact on firm value. Such measurement does not consider how costly and risky the different types of marketing innovation are. Given the nature of market-driven and market-driving, it is reasonable to assume that market-driving is more costly and risky to develop than market-driven. Future research could provide a detailed study of each single marketing innovation and evaluate its impact on performance gains, such as treating an announcement of a marketing innovation as an event and use an event study to evaluate the immediate stock market returns of each marketing innovation (Sorescu & Spanjol, 2008).

Second, given that our focus in this study is on marketing innovation, we treat technological and mixed innovation as controls in the model. However, our empirical results show some interesting insights: marketing innovation has a relatively stronger impact on firm value ($\beta = 1.466$) than technological innovation ($\beta = 0.085$) and mixed innovation ($\beta = 0.399$) in the CPG industries, as shown in Table 3. Future research could explore whether this is unique to the CPG industry or can be generalized to other industries. Moreover, future research could consider the interactions between the different types of innovation and assess whether and which complementary effects would be salient on firm value.

Furthermore, although market-driven and market-driving marketing innovation are value creators for firms, balancing them is of strategic imperative. Focusing too much on market-driven marketing innovation may render the firm myopic in over-fulfilling current demand while emphasizing too much market-driving marketing innovation could be highly risky and lead to the inability of obtaining sufficient returns to cover the costs of development and commercialization (Jaworski et al., 2000). Thus, further research needs to explore balancing mechanisms to better manage market-driven and market-driving marketing innovation.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jbusres.2020.12.067.

References

Atuahene-Gima, K. (1996). Market orientation and innovation. *Journal of Business Research, 35*(2), 93–103.

Bloch, P. H. (1995). Seeking the ideal form: Product design and consumer response. *Journal of Marketing, 59*(3), 16–29.

Carpenter, G. S., & Nakamoto, K. (1989). Consumer preference formation and pioneering advantage. *Journal of Marketing Research, 26*(3), 285–298.

Chandy, R. K., & Tellis, G. J. (1998). Organizing for radical product innovation: The overlooked role of willingness to cannibalize. *Journal of Marketing Research, 35*(4), 474–487.

Chandy, R. K., & Tellis, G. J. (2000). The incumbent's curse? Incumbency, size, and radical product innovation. *Journal of Marketing, 64*(3), 1–17.

Chen, Y. (2006). Marketing innovation. *Journal of Economics & Management Strategy, 15*(1), 101–123.

Choi, I. (2001). Unit root tests for panel data. *Journal of International Money and Finance, 20*(2), 249–272.

Chopra, S. 2007. A new channel strategy for Dell. Available at https://insight.kellogg.northwestern.edu/.

Chung, K. H., & Pruitt, S. W. (1994). A simple approximation of Tobin's q. *Financial Management, 23*(3), 70–74.

Day, G. S., & Wensley, R. (1988). Assessing advantage: a framework for diagnosing competitive superiority. *Journal of Marketing, 52*(2), 1–20.

Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing, 58*(4), 37–52.

Fornell, C., Mithas, S., Morgeson, F. V., III, & Krishnan, M. S. (2006). Customer satisfaction and stock prices: High returns, low risk. *Journal of Marketing, 70*(1), 3–14.

Geroski, P., Machin, S., & Van Reenen, J. (1993). The profitability of innovating firms. *RAND Journal of Economics, 24*(2), 198–211.

Grimpe, C., Sofka, W., Bhargava, M., & Chatterjee, R. (2017). R&D, marketing innovation, and new product performance: a mixed methods study. *Journal of Product Innovation Management, 34*(3), 360–383.

Gupta, S., Malhotra, N. K., Czinkota, M., & Foroudi, P. (2016). Marketing innovation: A consequence of competitiveness. *Journal of Business Research, 69*(12), 5671–5681.

Han, K., Mittal, V., & Zhang, Y. (2017). Relative strategic emphasis and firm-idiosyncratic risk: The moderating role of relative performance and demand instability. *Journal of Marketing, 81*(4), 25–44.

Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica, 46*(6), 1251–1271.

Hills, S. B., & Sarin, S. (2003). From market driven to market driving: an alternate paradigm for marketing in high technology industries. *Journal of Marketing Theory and Practice, 11*(3), 13–24.

Jacobson, R. (1990). Unobservable effects and business performance. *Marketing Science, 9*(1), 74–85.

Javanmard, H., & Hasani, H. (2017). The impact of market orientation indices, marketing innovation, and competitive advantages on the business performance in distributer enterprises. *International Journal of Industrial Distribution & Business, 8*(1), 23–31.

Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: antecedents and consequences. *Journal of Marketing, 57*(3), 53–70.

Jaworski, B., Kohli, A. K., & Sahay, A. (2000). Market-driven versus driving markets. *Journal of the Academy of Marketing Science, 28*(1), 45–54.

Jury, T. (2012). *Cash flow analysis and forecasting: the definitive guide to understanding and using published cash flow data*. New Jersey: John Wiley & Sons.

Kardes, F. R., & Kalyanaram, G. (1992). Order-of-entry effects on consumer memory and judgment: An information integration perspective. *Journal of Marketing Research, 29*(3), 343–357.

Keats, B. W., & Hitt, M. A. (1988). A causal model of linkages among environmental dimensions, macro organizational characteristics, and performance. *Academy of Management Journal, 31*(3), 570–598.

Kumar, N., Scheer, L., & Kotler, P. (2000). From market driven to market driving. *European Management Journal, 18*(2), 129–142.

Laforet, S. (2008). Size, strategic, and market orientation affects on innovation. *Journal of Business Research, 61*(7), 753–764.

Lee, R. P., & Grewal, R. (2004). Strategic responses to new technologies and their impact on firm performance. *Journal of Marketing, 68*(4), 157–171.

Lee, R., Lee, J. H., & Garrett, T. C. (2019). Synergy effects of innovation on firm performance. *Journal of Business Research, 99*, 507–515.

Lehmann, D. R. (2004). Metrics for making marketing matter. *Journal of Marketing, 68*(4), 73–75.

Li, T., & Calantone, R. J. (1998). The impact of market knowledge competence on new product advantage: conceptualization and empirical examination. *Journal of Marketing, 62*(4), 13–29.

McDougall, P. P., Covin, J. G., Robinson, R. B., Jr, & Herron, L. (1994). The effects of industry growth and strategic breadth on new venture performance and strategy content. *Strategic Management Journal, 15*(7), 537–554.

McKinsey & Company. (2011). *The decade ahead: Trends that will shape the consumer goods industry*. Chicago: McKinsey & Company.

McQuilken, T. (2014). *'Share a Coke' campaign grows sales for first time in 10 years*. Available: WSJ reports. at: https://www.adweek.com/.

Mohr, J. J., Sengupta, S., & Slater, S. F. (2010). *Marketing of high-technology products and innovations*. New Jersey: Pearson Prentice Hall.

Monk, D. 2012. Tide Pods successful enough to boost P&G's earnings, says analyst. Available at: https://www.bizjournals.com/.

Monk, D. (2016). How Tide Pods restarted the innovation engine for Procter & Gamble Co.. Available at: https://www.wcpo.com/.

Narver, J. C., Slater, S. F., & MacLachlan, D. L. (2004). Responsive and proactive market orientation and new product success. *Journal of Product Innovation Management, 21*(5), 334–347.

Nielsen. 2016. The U.S. breakthrough innovation report. Available at: http://www.nielsen.com/us/en.html.

OECD. (2005). *Oslo manual: Guidelines for collecting and interpreting innovation data*. Paris: OECD Publishing.

OECD. (2018). *Oslo manual: Guidelines for collecting, reporting and using data on innovation*. Paris: OECD Publishing.

Pauwels, K., Silva-Risso, J., Srinivasan, S., & Hanssens, D. M. (2004). New products, sales promotions, and firm value: The case of the automobile industry. *Journal of Marketing, 68*(4), 142–156.

Pemberton, C. (2018). 8 Top findings in Gartner CMO spend survey 2018-2019. Available at: http://www.gartner.com.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879–891.
Rubera, G., & Kirca, A. H. (2012). Firm innovativeness and its performance outcomes: A meta-analytic review and theoretical integration. *Journal of Marketing, 76*(3), 130–147.
Saboo, A. R., & Grewal, R. (2013). Stock market reactions to customer and competitor orientations: the case of initial public offerings. *Marketing Science, 32*(1), 70–88.
Slater, S. F., & Narver, J. C. (1994). Does competitive environment moderate the market orientation-performance relationship? *Journal of Marketing, 58*(1), 46–55.
Sood, A., & Tellis, G. J. (2005). Technological evolution and radical innovation. *Journal of Marketing, 69*(3), 152–168.
Sorescu, A. B., Chandy, R. K., & Prabhu, J. C. (2003). Sources and financial consequences of radical innovation: Insights from pharmaceuticals. *Journal of Marketing, 67*(4), 82–102.
Sorescu, A. B., & Spanjol, J. (2008). Innovation's effect on firm value and risk: Insights from consumer packaged goods. *Journal of Marketing, 72*(2), 114–132.
Srinivasan, S., & Hanssens, D. M. (2009). Marketing and firm value: Metrics, methods, findings, and future directions. *Journal of Marketing Research, 46*(3), 293–312.
Srinivasan, S., Pauwels, K., Silva-Risso, J., & Hanssens, D. M. (2009). Product innovations, advertising, and stock returns. *Journal of Marketing, 73*(1), 24–43.
Srivastava, R. K., Shervani, T. A., & Fahey, L. (1998). Market-based assets and shareholder value: A framework for analysis. *Journal of Marketing, 62*(1), 2–18.
Tellis, G. J., Prabhu, J. C., & Chandy, R. K. (2009). Radical innovation across nations: The preeminence of corporate culture. *Journal of Marketing, 73*(1), 3–23.
Terleckyj, N. E. (1980). What do R&D numbers tell us about technological change? *American Economic Review, 70*(2), 55–61.
UNESCO Institute for Statistics. 2014. Innovation data. Available at: http://uis.unesco.org/en/topic/innovation-data.
Ungerman, O., Dedkova, J., & Gurinova, K. (2018). The impact of marketing innovation on the competitiveness of enterprises in the context of industry 4.0. *Journal of Competitiveness, 10*(2), 132.
Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. Boston: MIT press.
Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology-and market-based breakthrough innovations. *Journal of Marketing, 69*(2), 42–60.

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