Supplier-initiated ingredient/component branding

Abdullah M. Aljafari
College of Business and Economics, Qatar University, Doha, Qatar, and
Tom J. Brown
Spears School of Business, Oklahoma State University, Stillwater, Oklahoma, USA

Abstract

Purpose – This paper aims to understand the process of initiating ingredient/component (IC) branding from the supplier's perspective. It proposes modeling entrepreneurial orientation (EO) as an antecedent factor and differentiation abilities (functional and reputational) as mediators. Investigating IC branding from the supplier's perspective is critical given the cost and risk associated with implementing such a strategy.

Design/methodology/approach – A total of 5,254 manufacturing companies were screened to identify IC supplier firms that meet certain criteria. Survey data were collected from 77 top managers (Chief Executive Officers or Chief Marketing Officers) of IC supplier firms. The paper uses partial least squares structural equation modeling (PLS-SEM) and SPSS in analyzing data.

Findings – The results indicate that IC branding is a complex strategy – one involving a number of steps that need to be taken in a specific order. More specifically, results indicate that IC branding starts with EO exerting a positive influence on IC functional differentiation ability (FDA). FDA facilitates reputational differentiation ability (RDA), which in turn encourages the supplier to initiate IC branding.

Originality/value – This paper addresses an important gap by studying the process through, which suppliers initiate IC branding.

Keywords Entrepreneurial orientation, Ingredient branding, Component branding, Functional differentiation ability, Reputational differentiation ability

Paper type Research paper

Introduction

Some suppliers advertise the value of their ingredients/components to end consumers bypassing their direct customers (i.e. the original equipment manufacturers (OEMs)) in the process (Desai and Keller, 2002; Giakoumaki *et al.*, 2016; Radighieri *et al.*, 2014). Through such activity, suppliers hope to build preference for their ingredients/components (IC) among end consumers, so that OEMs will believe that incorporating these ICs in their final product will enhance their attractiveness to end consumers. IC branding happens when an OEM agrees to show the supplier's brand on its end product along with the OEM's brand (Ghosh and John, 2009). Intel (i.e. "Intel Inside"), NutraSweet and Splenda are among the most famous IC brands.

Several reasons motivate suppliers to develop IC brands including higher margins, more stable demand, better mutual cooperation with OEMs, longer relationships, shared cost of development and promotion, shared risk and as an entry barrier for potential competitors (Erevelles *et al.*, 2008; Ghosh and John, 2009; Norris, 1992; Norris, 1993). Given the potential for such benefits, the number of IC brands is surprisingly low (Kotler and Pfoertsch, 2010). However, the relatively small number of IC brands exist across many industries such as the food, IT, packaging, textile and automobile industries. As a result, the potential scope of the phenomenon is large, not limited to a narrow industry specification. In addition, several successful IC brands are embedded in industries regarded as commodities (e.g. Makrolon in plastics; Wild Blueberries in agriculture). Such observations suggest strong growth potential for IC brands if brand managers can better understand the antecedent factors that influence the implementation of IC branding. This study contributes to the emerging literature on IC branding by addressing supplier-initiated IC branding. In this exploratory study we pose and attempt to answer the following question:

Q1. Why do some suppliers implement IC branding and others do not?

The current issue and full text archive of this journal is available on Emerald Insight at: **https://www.emerald.com/insight/0885-8624.htm**

Journal of Business & Industrial Marketing
35/6 (2020) 1023–1035
Emerald Publishing Limited [ISSN 0885-8624]
[DOI 10.1108/JBIM-10-2018-0317]

This article expanded on the author's dissertation, named: Supplier-Initiated IC Branding: Why and When Do Some Suppliers Implement an IC Branding Strategy and Others Do Not?

Received 29 October 2018
Revised 30 September 2019
21 November 2019
Accepted 21 November 2019

Consumer behavior scholars have studied IC branding from the end consumer's perspective (Desai and Keller, 2002). The results of these studies indicate that adding an IC brand to a host product improves consumers' evaluation of the co-branded product (Park *et al.*, 1996). Such improvement is stronger when a reputable IC brand is paired with a moderate-quality host product (McCarthy and Norris, 1999) or a private brand (Vaidyanathan and Aggarwal, 2000). Interestingly, consumer evaluations of the end product are also improved even when both (the IC and the OEM) brands have low equity (Washburn *et al.*, 2000; Washburn *et al.*, 2004). Other scholars have investigated the spillover effects (i.e. consumer evaluations of each brand after being used jointly in a co-branded product). Findings show that consumer attitudes (Simonin and Ruth, 1998) and actual purchase behavior (Swaminathan *et al.*, 2012) toward the less familiar brand improve. More recently, Radighieri *et al.* (2014) focused on negative spillover effects when the end product fails. Surprisingly, their results reveal that IC suppliers are less likely to suffer from negative spillover effects compared to OEMs even when the OEM brand has more equity compared to the IC brand because consumers regard the OEM as more responsible for the failure. Such findings provide additional incentives that encourage IC suppliers to initiate IC branding strategies.

Less research has addressed the IC branding phenomenon from the OEM's perspective. The findings show that OEMs initiate an IC branding relationship either to leverage a strong IC brand or to safeguard the supplier's investment in customizing an IC for the OEM (Ghosh and John, 2009). Scholars have yet to consider this phenomenon from the supplier's perspective. This is an important gap because managers at IC supplying firms are looking for ways to reap the benefits mentioned above by pursuing an IC branding strategy. However, pursuing such a strategy is costly. Thus, IC suppliers experience significant risk when deciding whether to brand their ICs. A key problem for IC suppliers, however, is that there is currently little or no guidance about how to initiate an IC branding strategy. In this study, we develop a conceptual model based on relevant literature and qualitative insights gathered from managers and consultants in the field.

Theoretical background

Ingredient/component branding

Merely branding an IC does not necessarily result in an IC brand because the branded IC could be marketed to an OEM as a business-to-business (B2B) brand. One important difference between a B2B brand and an IC brand is that the former involves two stages in the supply chain (i.e. the supplier and the OEM); however, the latter involves one more stage (i.e. the end consumer). Suppliers market their ICs to end consumers in an attempt to build awareness and preference, which will be later used as an advantage to convince an OEM to accept an IC branding arrangement (Giakoumaki *et al.*, 2016). We define IC branding as a conspicuous and intentional agreement between a supplier and an OEM whereby one or more of the host product's ICs is distinguished through co-branding (Ghosh and John, 2009). Such an agreement constitutes a form of a strategic alliance between both firms (Rao *et al.*, 1999; Rao and Ruekert, 1994).

Could any IC become a successful IC brand? Initially, we offer the straightforward contention that ICs that have the ability to differentiate the end product, on dimensions important to end customers, have the potential of becoming successful IC brands (Kotler and Pfoertsch, 2010; Norris, 1992). Our conceptual model distinguishes between two types of differentiation ability – IC *functional* differentiation ability (FDA) and IC *reputational* differentiation ability (RDA). FDA refers to the actual or potential enhanced attractiveness of the OEM's product in its market because of the IC's unique technological contribution. On the other hand, RDA refers to the enhanced attractiveness as a result of allying with the IC brand (Rao and Ruekert, 1994).

Assuming that differentiation ability is a key driver for implementing an IC branding strategy, a key question concerns factors that drive a supplier's ability to come up with distinctive ICs. All else equal, why do some suppliers develop unique ICs, while others do not? The answer to this question lies in differences in organizational characteristics among IC suppliers. We propose that suppliers with higher levels of entrepreneurial orientation (EO) have a higher probability of developing such ICs. Entrepreneurial suppliers are those who are willing to take the risk, experiment with new ideas and be proactive in shaping their environment (Covin and Slevin, 1989; Miller, 1983).

Entrepreneurial orientation

Consistent with extant research, we view EO as the organizational procedures, behaviors and decision-making routines that result in a new entry (Covin and Slevin, 1989; Lumpkin and Dess, 1996; Rauch *et al.*, 2009). The new entry in our context represents new ICs introduced by entrepreneurial suppliers. Miller (1983, p. 771) describes the entrepreneurially-oriented firm as one that "engages in product-market innovation, undertakes somewhat risky ventures and is first to come up with "proactive" innovation, beating competitors to the punch." These three characteristics as follows:

1 innovativeness;
2 risk-taking; and
3 proactiveness are the building blocks of Miller's conceptualization of EO.

We embrace Miller/Covin and Slevin's conceptualization as the prevalent view in extant literature (Covin and Slevin, 1989; Covin and Wales, 2011; George and Marino, 2011; Miller, 1983; Rauch *et al.*, 2009; Wales *et al.*, 2013). Our conceptual model depicts EO as a reflective second-order factor using innovativeness, risk-taking and proactiveness as first-order factors because this conceptualization is considered the best to enhance the accumulation of knowledge on EO (George and Marino, 2011; Wales, 2016). Table I provides definitions for the main constructs. Figure 1 depicts the study's theoretical model.

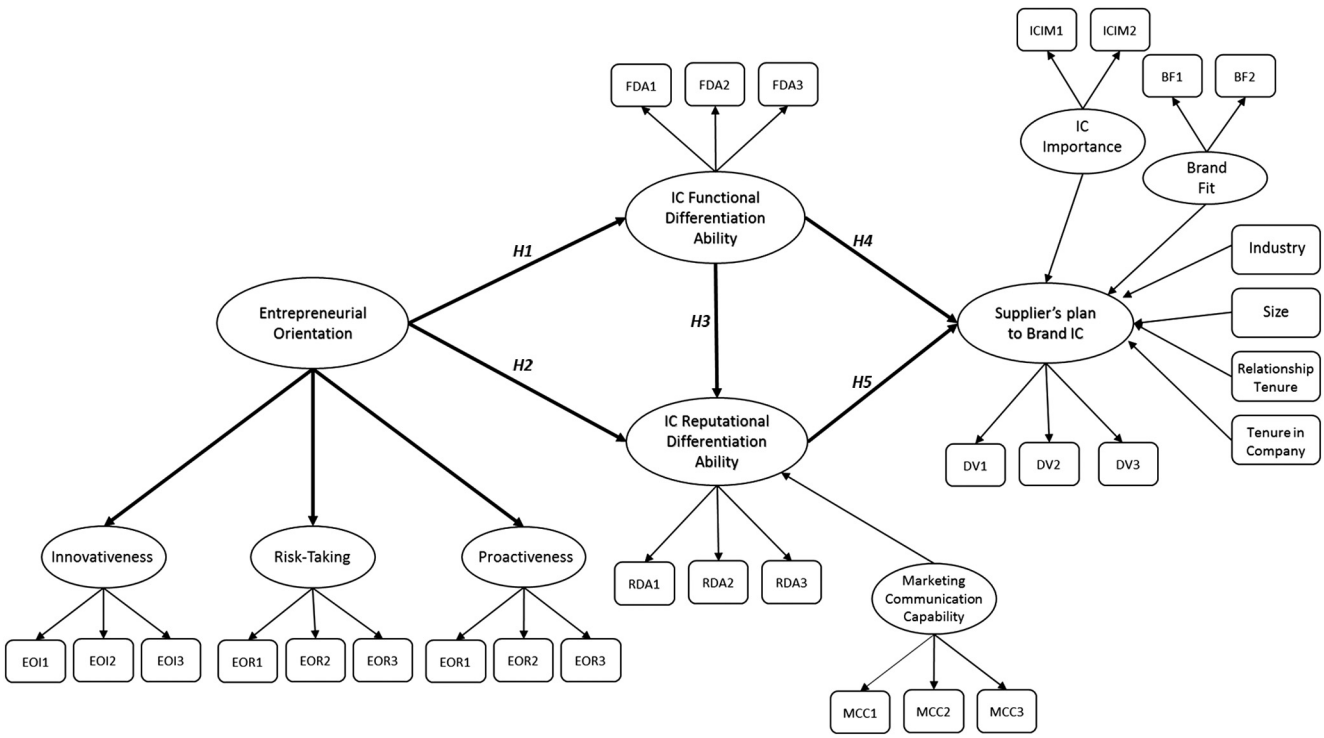
Conceptual framework and hypotheses

We contend that the dynamic capabilities framework developed by Teece *et al.* (1997) is more relevant to this study and use it in

Table I Main construct definitions

Construct	Definition
EO	EO is a strategic orientation embedded in top management's decision-making practices, philosophies and managerial styles that are characterized by innovativeness, risk-taking and proactiveness
IC FDA	The actual or potential enhanced attractiveness of the OEM's product in its market because of the IC's unique technological contribution
IC RDA	The enhanced attractiveness of the OEM's product as a result of allying with the IC brand
Supplier's Plan to Brand IC	The IC supplier's intention to implement IC branding within the next three years

Figure 1 Conceptual model



developing our ideas. Teece *et al.* (1997) introduced the dynamic capabilities framework as an extension to the resource-based view (Barney, 1991). Simply, dynamic capabilities are organizational processes to combine, integrate or reconfigure internal and external resources (Teece *et al.*, 1997). Such capabilities not only enable the firm to adapt to environmental changes but also to shape it (Teece, 2007). We maintain that IC branding is an alliance between an IC supplier and an OEM that reflects the ability to reconfigure internal and external resources to adapt to or shape the environment. The ability to develop such alliances is a dynamic capability (Eisenhardt and Martin, 2000; Teece *et al.*, 1997). Alliances are agreements between two or more firms to develop products, processes or services that involve sharing resources and knowledge (Gulati, 1998). Such alliances enable firms to gain access to external technology and make the most of complementary resources (Rothaermel and Hess, 2007; Teece, 1992).

Strategic management scholars view firm capabilities as organized in a hierarchy (Winter, 2003; Zahra *et al.*, 2006; Zollo and Winter, 2002). Lower-level or "ordinary" capabilities enable the firm to "make a living" by managing short term operations (Winter, 2003). However, higher-level or "dynamic" capabilities are responsible for changing or modifying ordinary capabilities (Winter, 2003; Zollo and Winter, 2002). Winter (2003) states that this distinction between lower- and higher-level capabilities depends on the established routines in a given firm. In other words, what might be considered a higher-level capability at one firm (e.g. research and development (R&D) results in changing the product) could be considered a lower-level capability for another (e.g. a specialized R&D independent lab). Similarly, for some suppliers initiating IC branding is a higher-level capability, however, for others such as Du Pont, it is a lower-level capability.

Entrepreneurial orientation → differentiation abilities

EO is a strategic orientation embedded in top management's decision-making practices, philosophies and managerial styles that are characterized by innovativeness, risk-taking and proactiveness (Covin and Slevin, 1998).

Innovativeness is the organizational predisposition to engage in and support creativity, novelty and experimentation to introduce new products and processes (Lumpkin and Dess, 1996; Rauch *et al.*, 2009). Innovativeness is probably the most important aspect of entrepreneurial firms. Miller (1983) reports that innovativeness is the only variable that has a positive and significant relationship with entrepreneurial activity across all types of organizations, structures and environments.

We contend that the essence of the dynamic capabilities approach is finding novel and creative resource configurations to remain competitive as the environment changes (Barreto, 2010; Eisenhardt and Martin, 2000; Teece *et al.*, 1997; Winter, 2003). Any changes in the production process, the product or the markets served are considered a dynamic capability (Winter, 2003). Strategic management literature states explicitly that new product development is a "prototypical example" of a dynamic capability (Winter, 2003, p. 992). Eisenhardt and Martin (2000, p. 1108) suggest that new product development processes in successful firms reflect "best practice" routines such as using cross-functional teams.

Entrepreneurial firms in general and IC suppliers, in particular, are better at modifying their products to adapt to or even shape the competitive environment. Teece (2016, 2007) assert that entrepreneurial firms use a dynamic capability that focuses on sensing opportunities before reconfiguring resources. Anecdotal evidence suggests that some IC suppliers are capable of sensing opportunities even when the experiment fails in achieving its original objectives. For example, researchers discovered Aspartame (NutraSweet) while experimenting to find a treatment for ulcers (Kumar *et al.*, 2000).

Scholars in management (Amit and Schoemaker, 1993) and marketing (Aaker, 1991; Aaker, 1996) maintain that brands are important organizational resources. However, these intangible resources have received much less attention in strategic management literature. We contend that constructing the brand and maintaining the right mix of brand associations as the environment changes require a good amount of creativity and novelty. Entrepreneurial firms monitor and search for new brand associations to distinguish their brands among customers (Aaker, 1991). To remain competitive, managers must perform an interpretative task trying their best to understand the nature and implications of such changes and then reach the best resource configuration that provides better customer satisfaction and/or experience. Such interpretative tasks represent organizational routines or dynamic capabilities (Teece, 2007). Thus, we expect innovative IC suppliers to introduce ICs that score high on IC functional and reputational differentiation abilities. Our expectation is based on the notion that these suppliers are better at the building, integrating and reconfiguring their internal, external, tangible and intangible competencies in a way that enables them to address the changing environment (Barreto, 2010; Helfat and Peteraf, 2003; Teece *et al.*, 1997; Zahra *et al.*, 2006).

Risk-taking is the managers' willingness to commit large resources to projects that have a significant chance of failure (Miller and Friesen, 1978). Mintzberg (1973) views the quality of risk-taking as more natural to entrepreneurial firms and one that enables them to reap above-average gains. Oftentimes entrepreneurs face situations where the emerging technological options are competing and the technological trajectory that they should invest in is not clear. In such situations and according to the dynamic capabilities framework, entrepreneurial firms keep a minimum investment and experiment with all viable options until one of them is clearly promising or dominant (Teece, 1986; Teece, 2007). Similarly, developing a successful brand involves high levels of risk because it requires committing a significant amount of resources that have a reasonable probability of being lost (Aaker, 1991). NutraSweet's infamous gumball campaign represents a risky attempt to build brand awareness and favorability among end consumers (Rao and Ruekert, 1994). In addition, associating the brand with some attributes or personality traits could be risky. For example, one such risky attribute that has gained interest recently is promoting an arrogant image (Awad and Youn, 2018). The willingness to accept a certain amount of risk enables the supplier to examine a larger number of viable technologies or brand associations, which enhances IC functional and reputational differentiation.

Proactiveness is the organizational predisposition to predict demand to introduce new products and services before competition (Rauch *et al.*, 2009). Proactiveness emphasizes the importance of the speed with which organizations reconfigure resources. Eisenhardt and Martin (2000, p. 1117) explicitly state that "using dynamic capabilities sooner, more astutely, more fortuitously than the competition" is important for achieving competitive advantage. Barreto (2010, p. 271) explicitly states in his definition that dynamic capabilities involve the ability "to make timely [. . .] decisions," and proposes the propensity to make timely decisions as one of the four facets that make up dynamic capabilities. The notion of proactiveness is consistent with the spirit found in early scholarly work on dynamic capabilities. For example, Teece *et al.* (1997, p. 521) highlight the importance of being able to reconfigure the resource base "quickly." Thus, we contend that entrepreneurial suppliers end up developing functionally differentiated ICs not only because they commit significant resources to a number of innovative projects but also because they sense the demand for the new IC and commercialize it ahead of competitors by reconfiguring their resources in a timely manner. In addition, we expect proactiveness to be manifested in the way these suppliers manage their brands. First, for new ICs, successful suppliers tend to develop and advertise the brand to end consumers sooner. Carefully observing successful IC brand reveals that suppliers hasten to develop and communicate the brand to end consumers before the patent expires. Second, for established IC brands, entrepreneurial suppliers will be quick to add or remove certain brand associations to adapt to the changing environment. In conclusion, we hypothesize that:

H1. EO exerts a positive influence on IC FDA.

H2. EO exerts a positive influence on IC RDA.

Ingredient/component functional differentiation ability → ingredient/component reputational differentiation ability

Peter Drucker, one of the founders of modern management thought, asserts that "any business enterprise has two – and only these two – basic functions, namely, marketing and innovation" (Drucker, 1954, p. 37). His emphasis on innovation and marketing implies a notion of interdependence between the two functions, which, in turn, paves the way for a business to thrive. Implicitly, Drucker suggests that innovation is necessary but not sufficient to achieve above-average performance; marketing is also required. Similarly, the branding literature views product quality as one of the building blocks for brand equity (Aaker, 2009). In his definition of perceived quality, Aaker indicates that quality is the perception of "superiority of a product or service [...] relative to alternatives" (Aaker, 2009, p. 85). Consequently, he maintains that "[i]f the perceived quality is high, the job of advertising and promotion is more likely to be effective" (Aaker, 2009, p. 87).

Some strategic management scholars group firm capabilities in categories based on time orientation (Collis, 1994; Winter, 2003; Zahra *et al.*, 2006). For example, Winter distinguishes between capabilities that enable the firm to reap benefits in the short term and capabilities that have a view on the long-term future (Winter, 2003). In the same vein, we view IC FDA as a dynamic capability focusing on achieving competitive advantage in the short run as compared to establishing IC RDA. Functional differentiation can enhance performance in the short term. However, more is needed to sustain performance in the long term. Unlike IC supplier firms that are headed by "scientists" or "engineers" who assume that the job is done once they have discovered or invented a new technology, far-sighted managers will move quickly to safeguard their unique technology by creating awareness and preference among end consumers. Consequently, we hypotheses that:

H3. IC FDA exerts a positive influence on IC RDA.

Ingredient/component differentiation abilities → Supplier's plan to implement ingredient/component branding

An IC that scores high on the FDA is one that has unique technological attributes. Consequently, it has the ability to differentiate the OEM's product in its market. OEMs will find such IC attractive because they enable them to enhance their market position (Norris, 1992). We expect suppliers who achieve high levels of FDA to contemplate implementing an IC branding strategy because of the benefits associated with such a strategy (e.g. higher margins).

Extant research suggests that IC brand reputation or equity is associated with the successful implementation of IC branding (Desai and Keller, 2002; Ghosh and John, 2009; Giakoumaki *et al.*, 2016; Linder and Seidenstricker, 2017; Park *et al.*, 1996; Simonin and Ruth, 1998). Awareness and favorability of ICs among end consumers increases the attractiveness of end products incorporating these ICs (Giakoumaki *et al.*, 2016; Linder and Seidenstricker, 2017). This eventually creates the pull effect from end consumers that transforms these reputable ICs into positive associations that OEMs are willing to feature alongside their brands. In addition, Lienland *et al.* (2013) find that positive IC supplier reputation can significantly improve end consumers' evaluation of an OEM brand suffering from bad reputation through implementing IC branding. Motivated by the benefits IC branding provides (e.g. price premiums and longer procurement relationships), IC suppliers who have sufficient reputational asset among end consumer will consider implementing IC branding in the near future:

H4. IC FDA exerts a positive influence on the supplier's plan to implement IC branding.

H5. IC RDA exerts a positive influence on the supplier's plan to implement IC branding.

Method

Sample and data collection procedure

Given the nature of the study constructs, which focus on organizational strategic orientations, differentiation abilities and strategic decisions such as whether to initiate an IC branding strategy, this study used responses from top management (CEOs and CMOs). To be included in the study, the IC supplier must produce ICs that are procured by an OEM to manufacture finished products sold to end consumers. This meant ignoring all industrial IC suppliers who market their IC to OEMs that target business customers (e.g. a supplier manufacturing ICs for machinery such as production lines). In addition, we ignored all procurement arrangements where the procured IC is a service (e.g. software) because such arrangements could be theoretically and practically different from manufactured ICs given the intangibility of service ICs.

We could find no databases that distinguish between firms based on their supplying status (databases list both OEMs and IC suppliers as manufacturers). To compile a list of IC suppliers we purchased a list of 5,254 manufacturers in three specific industries [i.e. SIC 35, industrial and commercial machinery; SIC 36, electronic and electric equipment; and SIC 37, transportation manufacturers] for which we believed IC branding relationships were more likely based on previous research (Ghosh and John, 2009). Then we began the task of identifying IC suppliers manually by visiting each company's website and examining its products and applications/solutions page. The screening process resulted in 746 IC suppliers that met our criteria. About 41 per cent (2,149) of the companies in the list were classified as industrial suppliers. These companies are either upper-level suppliers who produce ICs sold to other IC suppliers or companies that manufacture production lines or machinery sold to other manufacturers. OEMs that manufacture finished products marketed to end consumers made about 14 per cent (732). Service organizations such as IT solution providers made about 8.5 per cent (447). The remaining companies were either dealers, companies supplying the defense/aerospace industry or companies that their websites did not have enough information to be classified in any of the above categories.

We sent mail surveys to upper-level managers (i.e. CEOs or CMOs) of the 746 IC suppliers who met the criteria for this study. We used a number of strategies to maximize the

response rate. First, in line with Hornik's (1982) recommendation, we recruited a college student to pre-notify executives by phone that they would soon receive a survey in the mail. Second, in return for their participation managers were offered the option of receiving a one-page customized report summarizing their product's score on differentiation ability and their company's score on EO compared to the industry's average. Third, following the recommendation made by Brennan and Charbonneau (2009), we included a square of dark chocolate in each survey package as a token of appreciation. Fourth, we also added a paid business reply envelope in the survey package to facilitate returning completed surveys. The survey instructed executives to identify one of the ICs they manufacture that is not used currently as an IC brand; to identify one of their business customers who uses that IC in manufacturing a finished product marketed to end customers; and to respond to questions while taking both the IC of interest and the business customer into consideration. We distributed the surveys twice, with a one-month gap between mailings. After accounting for surveys returned to us because of wrong mailing addresses (33) and surveys with excessive amounts of missing data (4), we achieved a response rate of 11 per cent, $n = 77$.

Firms ranged in size from small (less than 20 employees) to large (5,000 employees). The majority of firms are established firms with mean age of 59 years. In addition, many of the respondents were founders and CEOs of their companies with a mean of 18 years' of experience with the current company and a mean of 25 years' experience in the industry. We tested for non-response bias by comparing the responses of early and late responders (Armstrong and Overton, 1977); there were no statistically significant differences in means of the focal constructs.

Measures

EO was measured using Covin and Slevin's (1989) nine-item scale. Functional and reputational differentiation abilities were measured with three items each, adapted from Ghosh and John (2005, 2009). The supplier's DV was measured using three items developed specifically for this study. Responses for all constructs were recorded using a seven-point Likert scale indicating the degree to which respondents agreed with statements. Table II lists measures for main constructs in the conceptual model.

Control variables

Our model depicts EO and FDA as antecedents to RDA. However, other variables such as promotional skills may contribute to developing a reputational asset. Thus, we measured and controlled for the effect of marketing communication capabilities (Vorhies and Morgan, 2005) on RDA. While differentiation abilities are a potential driver of IC branding, other factors might influence the supplier's decision about whether to implement such a strategy. Thus, we measured additional constructs in the survey to control for other possible explanations. IC suppliers might consider branding an IC just because it is important to the OEM's product. Hence, we control for IC importance on the supplier's plan to implement IC branding. We also controlled for brand fit between the IC brand the OEM brand on the supplier's plan to implement IC branding. It is plausible to think that IC suppliers will initiate IC branding with OEMs who have a consistent brand image. Given that we collected data from three industrial classifications (SIC 35, SIC 36 and SIC 37), the effects of the industry were controlled by adding a dummy variable. This has been done to rule out the possibility that a specific industry setting is influencing IC branding. Company size was measured by a number of employees and was controlled for because bigger suppliers with more resources might be more inclined to brand their ICs. In addition, our model controlled for relationship tenure between the IC supplier and the OEM and the tenure of the respondent in the current company.

Results

We used a two-step approach using SPSS 25.0 and Smart partial least squares (PLS) 3.0 (Ringle *et al.*, 2015) to analyze our data. PLS-SEM was used to test our structural hypotheses due to the relatively small sample size (de Vries *et al.*, 2014; Hair *et al.*, 2016). In addition, PLS allows the modeling of unobserved variables measured by indicators in a complex system of relationships among multiple independent and dependent variables simultaneously. Therefore, it overcomes some limitations (i.e. the specification of a simple model; the assumption that all variables are measured without error; and handling all variables as observed) of regression-based approaches.

First, in line with current PLS-SEM guidelines (Cohen, 1992; Hair *et al.*, 2016), we checked the minimum acceptable sample size given the complexity of our model. The maximum number of exogenous variables exerting influence on an endogenous variable in our PLS model is eight. Cohen (1992) and Hair Jr *et al.* (2016) indicate that a sample size of 54 is sufficient to detect R^2 values of at least 0.25 at a 5 per cent significance level and with a statistical power level of 80 per cent. Second, we report descriptive statistics and establish the reliability and validity of our measures. Validity tests have been conducted to assess the psychometric properties of our measures. Convergent validity is demonstrated by an average variance extracted (AVE) of 0.50 or more. To test for discriminant validity we used the Fornell and Larcker (1981) procedure in which discriminant validity between the measures for two constructs is established if the square root of AVE for a construct is greater than the correlation between any two constructs. Table III shows that all multi-item constructs meet this requirement indicating that the constructs are empirically different from each other. In addition, we checked the heterotrait-monotrait ratio (HTMT) of correlations among study constructs. HTMT estimates the true correlation between constructs assuming perfect measurement (Hair Jr *et al.*, 2016) to assess discriminant validity. Discriminant validity between two constructs is established if the HTMT ration correlation between them is below 0.85 (Hair Jr *et al.*, 2016; Henseler *et al.*, 2015). The highest HTMT ratio correlation among study constructs is 0.528 providing further evidence that constructs in our conceptual model are distinct and different from each other (Table IV). Finally, composite reliability scores for all multi-item construct measures exceeded

Table II Summary of measurement scales

Measurement	FL*	CR	AVE
Innovativeness (semantic differential 1-7):		0.85	0.66
In general, the top management of my firm favor . . .			
A strong emphasis on the marketing of tried and true components vs a strong emphasis on R&D, technological leadership and innovations	0.82		
How many new components have your firm marketed in the past five years? No new component vs very many new components	0.80		
Changes in components have been mostly minor vs changes in components have usually been quite dramatic	0.79		
Proactiveness (semantic differential 1-7)		0.82	0.61
In dealing with its competitors, my firm . . .			
Typically responds to actions, which competitors initiate vs typically initiates actions, which competitors then respond to	0.83		
Is very seldom the first business to introduce new components, administrative techniques, operating technologies, etc vs is very often the first business to introduce new components, administrative techniques, operating technologies, etc	0.90		
Typically seeks to avoid competitive clashes, preferring a "live-and-let-live" posture vs typically adopts very competitive, "undo-the-competitors" posture	0.58		
Risk-taking (semantic differential 1-7)		0.90	0.75
In general, the top managers of my firm have . . .			
A strong proclivity for low-risk projects (with normal and certain rates or return) vs a strong proclivity for high-risk projects (with chances of very high returns)	0.87		
In general, top managers of my firm believe that . . .			
Owing to the nature of the environment, it is best to explore it gradually via timid, incremental behavior vs owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives	0.84		
When confirmed with decision-making situations involving uncertainty, my firm . . .			
Typically adopts a cautious, "wait-and-see" posture to minimize the probability of making costly decisions vs typically adopts a bold, aggressive posture to maximize the probability of exploiting potential opportunities	0.89		
IC FDA (Likert 1-7)		0.92	0.79
Compared to competing components, the component of interest enhances end-customer experience regarding the objective performance of the end product	0.90		
Compared to competing components, the component of interest better captures the design and engineering synergies with the business customer's product	0.86		
End customers experience better objective performance when using the business customer's product because of the component of interest	0.90		
IC reputational differentiation ability (Likert 1-7)		0.96	0.90
Our brand image would help differentiate the business customer's product relative to his competitors	0.92		
The business customer's product would become more attractive to end customers as a result of linking the end product to our brand	0.97		
The end product's favorability among end customers would improve as a result of associating the end product with our brand name	0.96		
Supplier's DV (Likert 1-7)		0.92	0.80
Top management is willing to implement a component branding strategy during the next three years	0.90		
We have the ability to implement a component branding strategy within the next three years	0.87		
Based on our relationship with the business customer, we are optimistic about implementing a component branding strategy within three years	0.93		

Note: *Factor loadings are standardized

Table III Discriminant and convergent validity

Factor/construct	1	2	3	4	5	6	7	8	9	10	11
EO	(0.675)										
FDA	0.284*	(0.887)									
Reputational differentiation ability	0.187	0.351**	(0.950)								
Supplier's plan to IC branding	0.193	0.255*	0.479**	(0.901)							
Brand fit	0.076	0.168	0.305**	0.227*	(0.899)						
Component importance	−0.133	0.035	−0.033	−0.114	0.081	(0.817)					
Marketing communication capabilities	0.281**	0.140	0.106	0.199	0.279*	−0.069	(0.778)				
Number of employees[a]	−0.030	0.015	0.112	−0.034	0.053	0.032	−0.062	–			
Industry[a]	0.084	−0.032	−0.185	−0.173	−0.086	0.006	0.017	0.231*	–		
Relationship tenure[a]	−0.063	0.107	−0.119	−0.272	−0.024	0.257*	0.134	−0.086	0.205	–	
Manager tenure w/company (years)[a]	0.052	0.056	0.031	−0.103	−0.063	0.109	−0.092	−0.184	0.054	0.380**	–
Mean	4.30	5.09	4.12	3.62	4.53	5.73	4.39	2.18	2.61	15.41	
Standard deviation	1.05	1.26	1.77	1.72	1.48	1.07	1.18	0.725	0.750	10.33	

Notes: Square root of AVE plotted on the diagonal. **Significant at $p < 0.01$ (two-tailed); *significant at $p < 0.05$ (two-tailed); [a]single-item measure

the 0.70 thresholds. Table II reports composite reliability scores along with factor loadings.

Next, we follow Chin's (1998) recommendation to examine the multidimensionality of the second-order factor EO. Results indicate that all three dimensions have strong and significant loading coefficients ($p < 0.01$) on the higher-order construct EO (i.e. innovativeness 0.82, proactiveness 0.80 and risk-taking 0.87) indicating convergent validity. Additionally, we calculate the goodness of fit index (GoF) for a model specifying the EO construct only (de Vries *et al.*, 2014; Wetzels *et al.*, 2009). Results indicate that the GoF score of 0.67 is higher than the cut-off value of 0.36 (Wetzels *et al.*, 2009) further validating the EO construct. This indicates that the first-order constructs are unique and capture different domains; however, they are being reflected by one higher-order construct (Table V). We followed Podsakoff *et al.* (2003) procedural remedies (i.e. protecting anonymity and reducing apprehension by telling respondents that there are no right or wrong answers) to decrease the probability of common method bias. In addition, statistical tests recommended by Lindell and Whitney (2001) and Podsakoff *et al.* (2003) reveal that common method bias did not exert significant influence on our measures. More specifically, we used Harman's single-factor to test for

Table IV HTMT Ratio correlations

Factor/construct	1	2	3	4	5	6	7	8	9	10	11
EO											
FDA	0.340										
Reputational differentiation ability	0.216	0.382									
Supplier's plan to IC branding	0.229	0.290	0.528								
Brand fit	0.169	0.211	0.355	0.339							
Component importance	0.271	0.222	0.067	0.086	0.084						
Marketing communication capabilities	0.410	0.230	0.089	0.199	0.351	0.097					
Number of employees[a]	0.130	0.065	0.121	0.035	0.135	0.047	0.135				
Industry[a]	0.109	0.060	0.190	0.188	0.098	0.014	0.061	0.231			
Relationship tenure[a]	0.141	0.142	0.122	0.280	0.053	0.295	0.180	0.086	0.205		
Manager tenure w/company (years)[a]	0.138	0.074	0.083	0.113	0.072	0.104	0.119	0.184	0.054	0.380	

Note: [a]Single-item measure

Table V Validity test for second-order factor entrepreneurial orientation

Construct	Path estimate	*t*-value	Correlations innovativeness	Risk-taking
Innovativeness	0.81	14.69**		
Proactiveness	0.80	16.33**	0.43**	
Risk-taking	0.87	29.86**	0.53**	0.53**

Notes: **Significant at $p < 0.01$ (two-tailed)

common method bias (Podsakoff *et al.*, 2003) by loading all items of focal study constructs into a factor analysis in SPSS. Results reveal that no single factor accounts for the majority of the covariance among measures. The first six factors accounted for 77.87 per cent of the variance explained with the first factor accounting for 26.61 per cent and the sixth for 6.01 per cent of the variance explained. Given that no single factor emerged and the first factor did not account for most of the variance, results suggest that common method bias is not an issue.

The second step focused on hypotheses and model testing. We tested our model with 300 iterations. A bootstrapping procedure was conducted with 5,000 samples to obtain *t*-values. PLS estimation results are reported in Table VI, which indicates that our model accounts for 8.1 per cent of the variance in FDA, 13.3 per cent in RDA and 34.4 per cent in the supplier's DV. *H1* stated that EO exerts a positive influence on the FDA. The results show that the path coefficient associated with this relationship is positive and significant ($\beta = 0.284, p < 0.05$) providing support for *H1*. *H2* predicted that EO would exert a positive influence on RDA. Results reveal that the path coefficient for this link is not significant ($\beta = 0.087$, non-significant) failing to provide support for *H2*. *H3* established the effect of the FDA on RDA. Results indicate that the coefficient associated with this effect is positive and significant ($\beta = 0.321$, $p < 0.01$) providing support for *H3*. Next, *H4* predicted that the FDA would have a positive effect on the supplier's DV. However, the results reveal that the coefficient associated with this path is not significant ($\beta = 0.129$, non-significant) resulting in the rejection of *H4*. *H5* indicated that RDA exerts a positive influence on the supplier's plan to initiate IC branding. *H5* was supported given the significant and positive path coefficient associated with this relationship ($\beta = 0.430, p < 0.01$).

Given that the results above indicate that both types of differentiation abilities (functional and reputational) are potential mediators between EO and the supplier's plan to implement IC branding, we tested for EO's indirect effect on the supplier's plan to launch IC branding. To test for this effect we used an SPSS macro developed specifically to test three-path mediation (Chang *et al.*, 2010; Hayes *et al.*, 2010). This procedure uses bootstrapping with 1,000 iterations to calculate confidence intervals for all possible indirect effects. Significance is determined by examining confidence intervals to see if zero is included. If the confidence interval associated with a specific path does not include zero, the path is significant (different from zero). As our results indicate in Table VII, the 95 per cent confidence interval associated with the indirect effect of EO on the DV through both mediators, functional and reputational differentiation abilities, ranges from 0.02 to 0.29. Thus, the effect is positive and different from zero. In addition, the results reveal that neither FDA nor RDA alone mediates the relationship between EO and the supplier's attempt to implement IC branding.

Discussion and implications

The purpose of this research was to investigate antecedent factors leading to the implementation of IC branding. More specifically, our conceptual model depicted the effect of EO on functional and reputational differentiation abilities and the latter's effect on the plan to initiate IC branding. To this end, our results provide several contributions to marketing theory and practice.

It seems that entrepreneurial suppliers do indeed differentiate their ICs functionally (i.e. technologically) as the literature suggests (Drucker, 2014). This finding is consistent with the research of Li *et al.* (2006) indicating that EO exerts positive and significant influence on new product development improvements and with the work of Moreno and Casillas (2008), who provided evidence that EO has a positive and strong influence on expansion based on new products and technology. However, according to our results, these

Table VI PLS results

	Endogenous constructs					
	FDA		RDA		DV	
Exogenous constructs	**(β)**	**t-value**	**(β)**	***t*-value**	**(β)**	***t*-value**
H1: EO	0.284*	2.249				
H2: EO			0.087	0.685		
H3: FDA			0.321**	2.757		
H4: FDA					0.129	1.167
H5: RDA					0.384**	3.474
Control variables						
Marketing communication capability			0.037	0.178		
Brand fit					0.149	1.381
Component importance					−0.054	0.387
Industry					−0.010	0.087
Company size					−0.121	1.205
Relationship tenure					−0.150	1.155
Manager tenure with the company					−0.042	0.279
R^2 (%)	8.1%		13.3%		34.4%	
R^2 (control only model) (%)			0.7%		16.4%	

Notes: $n = 77$; *$p < 0.05$ (two-tailed); **$p < 0.01$ (two-tailed)

Table VII Mediation results

Model summary						
	R	R^2	*F*	*df1*	*df2*	*p*-value
	0.49	0.24	7.03	3	66	0.0004
The direct effect of EO on DV						
	Effect	SE	*t*-value	*p*-value	LLCI	ULCI
	0.11	0.19	0.58	0.56	− 0.28	0.50
The indirect effect of EO on DV						
	Effect	Boot SE	Boot LLCI	Boot ULCI		
Total	0.14	0.12	− 0.08	0.43		
Ind1	0.03	0.08	− 0.11	0.22		
Ind2	0.09	0.05	0.02	0.29		
Ind3	0.02	0.11	− 0.18	0.27		
Indirect effect key:						
Ind1: EO → FDA → DV						
Ind2: EO → FDA → RDA → DV						
Ind3: EO → RDA → DV						

entrepreneurial skills are not relevant to reputational differentiation. This finding is somewhat puzzling given the recent portrayal of entrepreneurs in the literature as a "source of brand creation" (Van Rensburg, 2012, p. 5).

FDA's positive influence on RDA is an important outcome. Aaker (2007) argues that building a reputation among customers for innovation is a logical step to escape a commodity status, yet, articles and books on innovation virtually ignore this aspect. Almost all successful IC brands (e.g. Intel, Splenda and Teflon) have started as unknown technological breakthroughs. However, the suppliers of these ICs allocated resources required to communicate the value of their ICs to end consumers before the patent expired. As the patent for any unique IC approaches expiration and me-too ICs start to appear, the IC's FDA begins to fade away and it becomes very challenging to implement IC branding.

The results indicate that the FDA has no direct impact on IC branding intent. This finding is interesting because the literature suggests that an OEM may initiate IC branding as a mechanism to safeguard the IC supplier's cost because of customizing the IC to fit with product specifications for that specific OEM (Ghosh and John, 2009). However, it seems that IC suppliers who develop technologically advanced ICs focus on selling it to as many as possible OEMs at a premium in an effort to maximize sales and profitability in the short-term.

On the other hand, RDA does, indeed, encourage the supplier to implement an IC branding strategy. This finding is in line with extant literature on IC branding (Desai and Keller, 2002; Ghosh and John, 2009). For example, Ghosh and John (2009) results suggest that OEMs are willing to initiate an IC branding relationship with suppliers who have a reputable brand image among end consumers. More recently, research indicates that IC advertising (Giakoumaki *et al.*, 2016) and IC supplier's reputation for innovation (Linder and Seidenstricker, 2017) significantly enhances consumer attitudes and purchase intentions and perceived quality toward end products incorporating these ICs.

The observation that implementing IC branding requires both functional and reputational differentiation abilities reflects the complexity of implementing such a strategy – one that involves specific steps in a specific order. This highlights that neither differentiation ability alone nor sufficient for the supplier to initiate IC branding. Also, given that functional and reputational differentiation abilities are most of the time managed by different functions within the firm (e.g. functional by operations or R&D reputational by marketing), our results highlight the importance of integration between these two functions to implement a successful IC branding strategy.

Conclusions and implications

Implementing IC branding involves a complex process with specific steps that need to be taken in a specific order. First, this investigation highlights the importance of promoting an entrepreneurial spirit or culture to implement an IC branding strategy. Our results indicate that EO has a positive effect on the IC's FDA. For suppliers who lack an entrepreneurial culture, building one could be very challenging. Alternatively, such IC suppliers could benefit from the notion of intrapreneurship (Pinchot, 1985), which involves specifying/hiring one or more individuals to work on converting innovations that arise either internally or externally into new or modified ICs capable of differentiating the OEM's product performance. Similarly, some strategic management scholars (Eisenhardt and Martin, 2000) suggest that successful routines and processes associated with new product development at organizations outside the company could be transferred to the company by hiring employees who worked in such organizations.

Next, IC suppliers need to develop the brand for such ICs and manage brand equity among both businesses- and end-consumers. Generally, a patent protects innovative ICs from competition for a number of years. We contend that this time is very critical for building awareness and favorability for the brand among end consumers. Eventually, this reputation among end customers would encourage OEMs to cooperate in

implementing IC branding. In other words, once a certain level of reputation for the IC has been achieved among end consumers, the supplier's attempt to initiate an IC branding strategy is more likely to be successful.

Limitation and future research

As with any research project, our study is limited in a number of ways that could provide opportunities for future research. First, this investigation is limited in its cross-sectional nature. Although researchers studying organizational phenomena use such an approach, longitudinal approaches are considered more appropriate to establish cause and effect relationships. Second, this study is limited by its focus on manufactured ICs in specific industries. Future research might consider replicating the findings with service ICs (e.g. web security) and with IC suppliers operating in other industries to examine the generalizability of the results. Third, understanding a complex phenomenon such as IC branding is a challenging task; other factors could be influencing it in addition to the constructs and relationships hypothesized in this study. For example, future research could adopt an upper-echelon perspective investigating managers' intrinsic factors influence on IC branding. In addition, the OEM's competitive strategy could emphasize either innovativeness or efficiency and this might have different impacts on the emphasis the IC supplier would place on developing new ICs. Future research might try to explain this phenomenon using other perspectives or identify moderators/mediators that provide further understanding.

Fourth, our dependent variable measured managers' intentions to implement IC branding in the future. Although research studies use such an approach (de Matos and Krielow, 2019), future research may focus on more objective measures of IC branding. Fifth, we examined the non-response bias by comparing late to early responses (Armstrong and Overton, 1977). However, future research might consider comparing sample statistics to known population parameters. Such considerations should be planned at an early stage of data collection (Walter *et al.*, 2012).

References

Aaker, D. (2007), "Innovation: brand it or lose it", *California Management Review*, Vol. 50 No. 1, pp. 8-24.

Aaker, D.A. (1996), "Measuring brand equity across products and markets", *California Management Review*, Vol. 38 No. 3, p. 102.

Aaker, D.A. (1991), *Managing Brand Equity: Capitalizing on the Value of a Brand Name*, The Free Press, New York, NY.

Aaker, D.A. (2009), *Managing Brand Equity*, Simon and Schuster.

Amit, R. and Schoemaker, P.J.H. (1993), "Strategic assets and organizational rent", *Strategic Management Journal*, Vol. 14 No. 1, pp. 33-46.

Armstrong, J.S. and Overton, T.S. (1977), "Estimating nonresponse bias in mail surveys", *Journal of Marketing Research*, Vol. 14 No. 3, pp. 396-402.

Awad, N. and Youn, N. (2018), "You reflect me: narcissistic consumers prefer anthropomorphized arrogant brands", *Journal of the Association for Consumer Research*, Vol. 3 No. 4, pp. 540-554.

Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

Barreto, I. (2010), "Dynamic capabilities: a review of past research and an agenda for the future", *Journal of Management*, Vol. 36 No. 1, pp. 256-280.

Brennan, M. and Charbonneau, J. (2009), "Improving mail survey response rates using chocolate and replacement questionnaires", *Public Opinion Quarterly*, Vol. 73 No. 2, pp. 368-378.

Chang, S-J., Van Witteloostuijn, A. and Eden, L. (2010), "From the editors: common method variance in international business research", *Journal of International Business Studies*, Vol. 41 No. 2, p. 178.

Chin, W.W. (1998), "Issues and opinion on structural equation modeling", *Management Information Systems Quarterly*, Vol. 22 No. 1, p. 3.

Cohen, J. (1992), "A power primer", *Psychological Bulletin*, Vol. 112 No. 1, p. 155.

Collis, D.J. (1994), "Research note: how valuable are organizational capabilities?", *Strategic Management Journal*, Vol. 15 No. S1, pp. 143-152.

Covin, J.G. and Slevin, D.P. (1989), "Strategic management of small firms in hostile and benign environments", *Strategic Management Journal*, Vol. 10 No. 1, pp. 75-87.

Covin, J.G. and Slevin, D.P. (1998), "The influence of organization structure on the utility of an entrepreneurial top management style", *Journal of Management Studies*, Vol. 25 No. 3, pp. 217-218.

Covin, J.G. and Wales, W.J. (2011), *The Measurement of Entrepreneurial Orientation*, Entrepreneurship: Theory & Practice, doi: 10.1111/j.1540-6520.2010.00432.x.

de Vries, J., Schepers, J., van Weele, A. and van der Valk, W. (2014), "When do they care to share? How manufacturers make contracted service partners share knowledge", *Industrial Marketing Management*, Vol. 43 No. 7, pp. 1225-1235.

Desai, K.K. and Keller, K.L. (2002), "The effects of ingredient branding strategies on host brand extendibility", *Journal of Marketing*, Vol. 66 No. 1, pp. 73-93.

Drucker, P. (2014), *Innovation and Entrepreneurship*, Routledge.

Drucker, P.F. (1954), *The Practice of Management: A Study of the Most Important Function in America Society*, Harper & Brothers.

Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, Vol. 21 Nos 10/11, pp. 1105-1121.

Erevelles, S., Stevenson, T.H., Srinivasan, S. and Fukawa, N. (2008), "An analysis of B2B ingredient Co-branding relationships", *Industrial Marketing Management*, Vol. 37 No. 8, pp. 940-952.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

George, B.A. and Marino, L. (2011), "The epistemology of entrepreneurial orientation: conceptual formation,

modeling, and operationalization", *Entrepreneurship Theory and Practice*, Vol. 35 No. 5, pp. 989-1024.

Ghosh, M. and John, G. (2005), "Strategic fit in industrial alliances: an empirical test of governance value analysis", *Journal of Marketing Research*, Vol. 42 No. 3, pp. 346-357.

Ghosh, M. and John, G. (2009), "When should original equipment manufacturers use branded component contracts with suppliers?", *Journal of Marketing Research*, Vol. 46 No. 5, pp. 597-611.

Giakoumaki, C., Avlonitis, G.J. and Baltas, G. (2016), "Does ingredient advertising work? Some evidence on its impact", *Journal of Business & Industrial Marketing*, Vol. 31 No. 7, pp. 901-913.

Gulati, R. (1998), "Alliances and networks", *Strategic Management Journal*, Vol. 19 No. 4, pp. 293-317.

Hair Jr, J.F., Hult, G.T.M., Ringle, C. and Sarstedt, M. (2016), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Sage Publications.

Helfat, C.E. and Peteraf, M.A. (2003), "The dynamic resource-based view: capability lifecycles", *Strategic Management Journal*, Vol. 24 No. 10, pp. 997-1010.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135.

Hornik, J. (1982), "Impact of the pre-call request form and gender interaction on response to a mail survey", *Journal of Marketing Research*, Vol. 19 No. 1, pp. 144-151.

Kotler, P. and Pfoertsch, W. (2010), *Ingredient Branding: Making the Invisible Visible*, Heidelberg: Springer.

Kumar, N., Scheer, L. and Kotler, P. (2000), "From market driven to market driving", *European Management Journal*, Vol. 18 No. 2, pp. 129-142.

Li, Y., Liu, Y. and Zhao, Y. (2006), "The role of market and entrepreneurship orientation and internal control in the new product development activities of Chinese firms", *Industrial Marketing Management*, Vol. 35 No. 3, pp. 336-347.

Lienland, B., Baumgartner, A. and Knubben, E. (2013), "The undervaluation of corporate reputation as a supplier selection factor: an analysis of ingredient branding of complex products in the manufacturing industry", *Journal of Purchasing and Supply Management*, Vol. 19 No. 2, pp. 84-97.

Lindell, M.K. and Whitney, D.J. (2001), "Accounting for common method variance in cross-sectional research designs", *Journal of Applied Psychology*, Vol. 86 No. 1, p. 114.

Linder, C. and Seidenstricker, S. (2017), "How does a component from a supplier with a high reputation for product innovation improve the perception of a final offering? A process perspective", *European Management Journal*.

Lumpkin, G.T. and Dess, G.G. (1996), "Clarifying the entrepreneurial orientation construct and linking it to performance", *The Academy of Management Review*, Vol. 21 No. 1, pp. 135-172.

McCarthy, M.S. and Norris, D.G. (1999), "Improving competitive position using branded ingredients", *Journal of Product & Brand Management*, Vol. 8 No. 4, pp. 267-285.

de Matos, C.A. and Krielow, A. (2019), "The effects of environmental factors on B2B e-services purchase: perceived risk and convenience as mediators", *Journal of Business & Industrial Marketing*, Vol. 34 No. 4, pp. 767-778.

Miller, D. (1983), "The correlates of entrepreneurship in three types of firms", *Management Science*, Vol. 29 No. 7, pp. 770-791.

Miller, D. and Friesen, P.H. (1978), "Archetypes of strategy formulation", *Management Science*, Vol. 24 No. 9, pp. 921-933.

Mintzberg, H. (1973), "Strategy-making in three modes", *California Management Review*, Vol. 16 No. 2, pp. 44-53.

Moreno, A.M. and Casillas, J.C. (2008), "Entrepreneurial orientation and growth of SMEs: a causal model", *Entrepreneurship Theory and Practice*, Vol. 32 No. 3, pp. 507-528.

Norris, D.G. (1992), "Ingredient branding: a strategy option with multiple beneficiaries", *Journal of Consumer Marketing*, Vol. 9 No. 3, pp. 19-31.

Norris, D.G. (1993), "Intel inside" branding a component in a business market", *Journal of Business & Industrial Marketing*, Vol. 8 No. 1, pp. 14-24.

Park, C.W., Jun, S.Y. and Shocker, A.D. (1996), "Composite branding alliances: an investigation of extension and feedback effects", *Journal of Marketing Research*, Vol. 33 No. 4, pp. 453-466.

Pinchot, G. III, (1985), *Intrapreneuring: Why You Don't Have to Leave the Corporation to Become an Entrepreneur*, the University of IL at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.

Podsakoff, P.M., Mackenzie, S.B. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903.

Radighieri, J.P., Mariadoss, B.J., Grégoire, Y. and Johnson, J. L. (2014), "Ingredient branding and feedback effects: the impact of product outcomes, initial parent brand strength asymmetry, and parent brand role", *Marketing Letters*, Vol. 25 No. 2, pp. 123-138.

Rao, A.R., Qu, L. and Ruekert, R.W. (1999), "Signaling unobservable product quality through a brand ally", *Journal of Marketing Research*, Vol. 36 No. 2, pp. 258-268.

Rao, A.R. and Ruekert, R.W. (1994), "Brand alliances as signals of product quality", *Sloan Management Review*, Vol. 36 No. 1, pp. 87-97.

Rauch, A., Wiklund, J., Lumpkin, G.T. and Frese, M. (2009), "Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future", *Entrepreneurship Theory and Practice*, Vol. 33 No. 3, pp. 761-787.

Rothaermel, F.T. and Hess, A.M. (2007), "Building dynamic capabilities: innovation driven by the individual-, firm-, and network-level effects", *Organization Science*, Vol. 18 No. 6, pp. 898-921.

Simonin, B.L. and Ruth, J.A. (1998), "Is a company known by the company it keeps? Assessing the spillover effects of brand alliances on consumer brand attitudes", *Journal of Marketing Research*, Vol. 35 No. 1, pp. 30-42.

Swaminathan, V., Reddy, S.K. and Dommer, S.L. (2012), "Spillover effects of ingredient branded strategies on brand

choice: a field study", *Marketing Letters*, Vol. 23 No. 1, pp. 237-251.
Teece, D.J. (1986), "Profiting from technological innovation: implications for integration, collaboration, licensing and public policy", *Research Policy*, Vol. 15 No. 6, pp. 285-305.
Teece, D.J. (1992), "Competition, cooperation, and innovation: organizational arrangements for regimes of rapid technological progress", *Journal of Economic Behavior & Organization*, Vol. 18 No. 1, pp. 1-25.
Teece, D.J. (2007), "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance", *Strategic Management Journal*, Vol. 28 No. 13, pp. 1319-1350.
Teece, D.J. (2016), "Dynamic capabilities and entrepreneurial management in large organizations: toward a theory of the (entrepreneurial) firm", *European Economic Review*, Vol. 86, pp. 202-216.
Teece, D.J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18 No. 7, pp. 509-533.
Vaidyanathan, R. and Aggarwal, P. (2000), "Strategic brand alliances: implications of ingredient branding for national and private label brands", *Journal of Product & Brand Management*, Vol. 9 No. 4, pp. 214-228.
Van Rensburg, D.J. (2012), "Strategic brand venturing: the corporation as entrepreneurs", *Journal of Business Strategy*, Vol. 33 No. 3, pp. 4-12.
Vorhies, D.W. and Morgan, N.A. (2005), "Benchmarking marketing capabilities for sustainable competitive advantage", *Journal of Marketing*, Vol. 69 No. 1, pp. 80-94.
Wales, W.J. (2016), "Entrepreneurial orientation: a review and synthesis of promising research directions", *International Small Business Journal: Researching Entrepreneurship*, Vol. 34 No. 1, pp. 3-15.
Wales, W.J., Gupta, V.K. and Mousa, F.-T. (2013), "Empirical research on entrepreneurial orientation: an assessment and suggestions for future research", *International Small Business Journal: Researching Entrepreneurship*, Vol. 31 No. 4, pp. 357-383.
Walter, J., Kellermanns, F.W. and Lechner, C. (2012), "Decision making within and between organizations: rationality, politics, and alliance performance", *Journal of Management*, Vol. 38 No. 5, pp. 1582-1610.
Washburn, J.H., Till, B.D. and Priluck, R. (2000), "Co-branding: brand equity and trial effects", *Journal of Consumer Marketing*, Vol. 17 No. 7, pp. 591-604.
Washburn, J.H., Till, B.D. and Priluck, R. (2004), "Brand alliance and customer-based brand-equity effects", *Psychology and Marketing*, Vol. 21 No. 7, pp. 487-508.
Wetzels, M., Odekerken-Schröder, G. and Van Oppen, C. (2009), "Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration", *MIS Quarterly*, pp. 177-195.
Winter, S.G. (2003), "Understanding dynamic capabilities", *Strategic Management Journal*, Vol. 24 No. 10, pp. 991-995.
Zahra, S.A., Sapienza, H.J. and Davidsson, P. (2006), "Entrepreneurship and dynamic capabilities: a review, model and research agenda", *Journal of Management Studies*, Vol. 43 No. 4, pp. 917-955.
Zollo, M. and Winter, S.G. (2002), "Deliberate learning and the evolution of dynamic capabilities", *Organization Science*, Vol. 13 No. 3, pp. 339-351.

Further reading

Aljafari, A. (2013), "Supplier-Initiated ingredient/component branding: why and when do some suppliers implement an IC branding strategy and others do not?", Doctoral dissertation, Oklahoma State University.
Bucy, E.P. and Holbert, R.L. (Eds), (2010), *Sourcebook for Political Communication Research: Methods, Measures, and Analytical Techniques*, Routledge.

Corresponding author

Abdullah M. Aljafari can be contacted at: abdullah.aljafari@qu.edu.qa