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Essays on Channel Deletion and Channel Contraction

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Channel Deletion and Channel Contraction

BY

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ACCEPTANCE

This dissertation was prepared under the direction of the Binay Kumar Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

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ABSTRACT

Essays on Channel Deletion and Channel Contraction

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With the advent of online, mobile, and social media channels, firms have an array of channels in their channel mix. The proliferation of channels has increased marketing costs and may be detrimental to a firm's competitive position. Also, firms confront diverse issues, including channel conflict, cannibalization, cooperation, and control in today's omni-channel environment. As the payoff of resource allocations differs across channels, I contend that judicious deletion of channels can be a viable option not only to reduce the channel-related concerns but also to enhance firm performance. Channel deletion is an emerging phenomenon in the real world and is currently receiving special attention in the industry. Further understanding is required concerning what drives a firm's channel deletion decision and how this influences various channel issues, and ultimately that firm's performance. In my dissertation study, I propose a comprehensive framework depicting drivers and outcomes of channel deletion. Drawing on multiple theoretical perspectives, I present a set of propositions that 1) identify drivers of channel deletion, 2) link channel deletion to channel cooperation and customer reactance which then influences firm performance, and 3) describe various contextual factors that govern the proposed relationships. Subsequently, I also investigate the influence of channel deletion strategy on firm value. Along with channel deletion (i.e., full deletion), firms are involved in the channel contraction (i.e., partial deletion) as well. While these strategies aim to reduce costs, thereby improving efficiency, there is a perception of risk (i.e., uncertainty over future cash flows). Using the data of 314 announcements made by 146 publicly traded U.S. firms across 39 industries over five years, I demonstrate the significant effect of channel deletion and channel contraction strategies on firm value and firm risk. I also observe that stock market reaction to channel deletion is more favorable than channel contraction; however, the firm value associated with the channel deletion attenuates in case of higher market turbulence. Further, channel deletion strategies enhance firm risk; however, the advertising intensity helps in reducing the risk. My dissertation study offers important insights regarding the channel deletion and contraction strategies for marketing theory and practice.

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Chapter 1: Introduction

With the commercialization of the internet and subsequent digital innovation, firms have added many channels, including the company outlet, retail store, franchisee, online, social media, and mobile app. Such a proliferation of channels has magnified the costs of selling the products or services. In the end, firms need to assess whether the costs associated with each channel are commensurate with the expected benefits. Owing to resource constraints, managers are typically asked by their firms to evaluate the benefits of adding as well as deleting a channel. My dissertation examines channel deletion, a phenomenon that is currently receiving special attention in the industry. Although various firms are involving themselves in channel deletion, there is a dearth of research on this issue. Past studies have predominantly focused on channel addition and have not had the opportunity to examine the channel deletion strategy of the firm. Essay 1 of my dissertation, titled "Channel Deletion: Bane or Boon?" is a conceptual paper that focuses on the antecedents and consequences of channel deletion. Drawing on multiple theoretical perspectives (e.g., social exchange theory and customer reactance theory), I demonstrate that channel deletion helps in improving firm performance. Further, I identify the drivers of channel deletion utilizing the political economy paradigm (PEP).

Although channel deletion is currently receiving special attention in the industry, an understanding of its influence on firm value and firm risk remains scant. Along with channel deletion (i.e., full deletion), firms are also involved in the channel contraction (i.e., partial deletion). While these strategies aim to reduce costs, thereby improving efficiency, there is a perception of risk (i.e., uncertainty over future cash flows). More understanding is required concerning how and why channel deletion affects firm value and firm risk. Essay 2 of my dissertation, titled "The Effect of Channel Deletion and Channel Contraction on Firm Value and Firm Risk," is an empirical paper that investigates the stock market reaction to channel deletion and channel contraction strategy.

Drawing on information economics theory, I further aspire to understand the contextual factors which might influence such reactions. Through this study, we answer the relevant research questions of 1) how and why channel deletion affects firm value and risk, 2) how these effects differ from those of channel contraction, and 3) what some of the factors are, which moderate these effects. Using data from a multitude of firms from multiple industries, and utilizing choice modeling and seemingly unrelated regression modeling, this study shows that deletion strategies influence firm value and firm risk. Our study contributes to the literature by exploring both firm value and firm risk. From a practitioner viewpoint, it helps managers better understand both the returns and risks associated with channel deletion and channel contraction, thereby make more informed decisions on these issues.

The two essays of my dissertation seek to understand both the theoretical and practical reasons for channel deletion. Overall, my dissertation study provides insights not only on the effect of channel deletion and channel contraction strategies on firm performance but also on why firms are involved in channel deletion. Taken together, the theoretical explanations and new insights can offer substantial value to marketing practice.

Chapter 2

Essay 1: Channel Deletion: Bane or Boon?

(Being Revised for Resubmission to the *Journal of Marketing*)

Abstract

Firms confront diverse issues, including channel conflict, cannibalization, cooperation, and control in today's omni-channel environment. While a firm may use numerous channels, it is the quality of the channel mix rather than the quantity that is key in satisfying the firm's customer base. As the payoff of resource allocations differs across channels, we contend that judicious deletion of channels can be a viable option not only to reduce the channel-related concerns but also to enhance firm performance. Channel deletion is an emerging phenomenon in the real world and is currently receiving special attention in the industry. Further understanding is required concerning what drives a firm's channel deletion decision and how this influences various channel issues, and ultimately that firm's performance. In this study, we propose a comprehensive framework depicting drivers and outcomes of channel deletion. Drawing on multiple theoretical perspectives, we present a set of propositions that 1) identify drivers of channel deletion, 2) link channel deletion to channel cooperation and customer reactance which then influences firm performance, and 3) describe various contextual factors that govern the proposed relationships. Finally, we offer guidance to managers concerning channel deletion strategy.

Keywords: channel deletion, transaction cost economics, channel conflict, channel cooperation, customer reactance

Introduction

"Changes in distributive channels may not matter much to GNP and macroeconomics. But, they should be a major concern to every business and industry".

(Peter Drucker 1990, p. A12)

Channel-related issues have always been considered important by marketing thinkers and practitioners. Frazier (1999, p. 238) states, "As the world economy evolves, more and more companies are highlighting channel management as among their very top priorities." The company's channels of distribution represent a foundation for its other marketing policies (Lilien et al. 1992). Kotler and Keller (2012) also note that the decisions surrounding marketing channels are among the most critical ones management faces.

Over the years, especially with the advances in technology, firms have added many channels, including the salesforce, company outlet, retail store, wholesale distributor, franchisee, online, call center, catalog, mobile app, and social media to provide value to their customers. However, channels usually constitute a significant percentage of the total cost of marketing a product, and the proliferation of channels has magnified the cost. A key question is whether the value from the customer is greater than the value to the customer. Kotler and Keller (2012) document that in the United States, advertising typically accounts for 5 percent to 7 percent of the final selling price, whereas marketing channels account for 30 percent to 50 percent of the final price. The firm needs to allocate considerable resources to all offered channels and, therefore, the success of the firm in meeting its objectives is highly dependent upon how well the firm's channel members perform (Lewis and Lambert 1991). Also, the level of performance attained by channel members is pivotal for the firm in achieving a competitive advantage and profitability (Mehta et al. 2002). Past research argues that multichannel customers are more profitable customers (Venkatesan et al. 2007). Thus, the question of whether channel deletion is a bane or boon remains unknown.

Neslin et al. (2006) assert that channel performance evaluation is crucial for designing an appropriate multichannel strategy and those channel members whose performance is not on par with the firm's objectives must be assisted or, as a last resort, removed. Perreault Jr , Cannon, and McCarthy (2013) also contend that there is no value in embracing an outdated channel structure as eliminating channels can add more value to the firm.

We define *channel deletion* as an activity involving the decision to discontinue a channel format and/or reliance on a class of intermediary. Channel deletion has the potential to enhance firm performance because a firm can free up resources by deleting a channel and subsequently redeploy some of these resources in the continuing channels to enhance the competitive standing and financial performance (Kumar 2003; Varadarajan et al. 2006). The freed-up resources – financial as well as managerial –were previously spent coordinating and controlling a large number of channels. The leaner channel mix (due to channel deletion) is likely to provide managers with greater opportunities to focus on the remaining channel entities, and thereby exert better control over those channel entities. Additionally, as a result of the redeployment of resources, the remaining channels would be in a better position to provide enhanced services to customers.

We have observed many instances of channel deletion in the recent past. For example, in February 2019, Tesla, Inc. (a US Electric vehicle manufacturer) announced that it would eliminate its brick-and-mortar retail channel in pursuance of diverting more resources into improving the services, and only sell its vehicles online.[1] The decision to shift away from brick-and-mortar retail was necessary for the firm to remain financially sustainable, Tesla stated. It is expected that this move will help the firm in cutting expenses considerably. The CEO of Tesla said, "We're moving all sales online…Worldwide, the only way to buy a Tesla will be online. It is a hard decision, but I think it's the right decision for the future." As another example, Sony announced closure of its

[1] https://www.cnet.com/roadshow/news/tesla-close-stores-online-sales-model-3/

online store in August 2015.[2] In May 2016, Victoria's Secret (a Womenswear manufacturer) eliminated its catalog as the majority of its customers do their shopping online. The company's finance chief said that the company spends a significant amount ($150 million a year) producing catalogs that no longer spur sales.[3] In May 2019, another firm, H&M (a fashion retailer), announced the elimination of its catalog. The firm said that the discontinuation of its catalog is a result of the changing shopping pattern as customers prefer to shop online.[4] Hence, through the channel deletion act, firms expect that the impact of costs saved would be higher than lost sales. In table 1, we provide representative examples of channel deletion.

[Insert Table 1 about here]

Firms are realizing that continuing with several channels increases marketing costs without providing commensurate benefits. The proliferation of channels has created a challenge for firms to manage and control them effectively (Kotler and Armstrong 2013; Neslin et al. 2006). Kumar (2003) note that the manufacturer is always tempted to expand the distribution channels. However, having too many channels chasing fewer customers results in lowered support for the firm and, in the long run, such situation can adversely impact the brand image and competitive position of a firm (Frazier and Lassar 1996). While firms should exploit market potential efficiently through different channels, they need to avoid overly intensive distribution. A firm with an overly intensive network may face escalated intra-brand competition (Palmatier et al. 2016) and thereby channel conflicts (Falk et al. 2007; Kotler and Armstrong 2013), whereas a firm that reduces the number of channels controls or avoids unhealthy intra-brand competition and channel conflict (Jindal et al. 2007; Käuferle and Reinartz 2015). Channel conflict can ruin the cooperative relationship among channel members, leading to lower overall profits (Ganesan et al. 2009). Also, the intra-brand competition

[2] https://www.eyeonmobility.com/2015/online-sony-store-closing-on-august-28th/
[3] https://www.usmagazine.com/stylish/news/victorias-secret-will-stop-sending-catalogs-w207842/
[4] https://www.retailwire.com/discussion/hm-will-cease-printing-its-catalog-after-39-years/

puts pressure on prices, which leads to the alienation of intermediaries. The following is a typical channel conflict instance associated with Apple, Inc.:

"Apple would like to sell everything themselves. They keep opening more and more retail locations. Every time they open another store, they are potentially putting a solution provider out of business."[5]

(Quote from one of the retailers offering Apple products)

In effect, firms need to take suitable action proactively rather than reactively. If the firm undertakes timely corrective actions (e.g., channel deletion), the adverse situations may be avoided and, hence, such channel-related action needs to be taken as strategic initiatives to remain profitable. As an analogy, firms undertake brand deletion to enhance organizational performance (Varadarajan et al. 2006) as per the marketplace requirements and to signal that they are taking proactive steps to adapt to the changing business needs.

We contend that channel deletion needs careful consideration as it can have a positive impact on firm performance. This study is required to ascertain why firms actually delete the channel, and how the channel deletion is linked to firm performance. Such a study can impart novel insights, but surprisingly little research has been undertaken to provide a thorough understanding of channel deletion. Researchers have given a call to study this phenomenon, e.g., Srinivasan and Hanssens (2009) document that research is needed on channel deletion, while Verhoef, Kannan, and Inman (2015) similarly state that more research is required on channel deletion. Despite the importance of works on channel deletion, to the best of our knowledge, only Konus, Neslin, and Verhoef (2014) have examined this phenomenon. However, their study only focuses on the influence of search channel deletion on the purchase behavior of customers and does not discuss the drivers of channel deletion or the influence of channel deletion on continuing channel entities.

[5] https://www.logicbay.com/blog/companies-who-faced-channel-conflict-and-won-one-who-didn-t

Therefore, in this study, we address the following research questions:

1) What factors influence channel deletion?
2) How channel deletion affects demand and supply side consequences?
3) How firm performance is influenced by channel deletion?
4) How the contextual factors firm-owned vs externally-owned channel, and B2B vs B2C influence the proposed relationship between channel deletion and its antecedents?

Study Motivation

Extant research typically emphasizes channel addition, and the current push towards an omni-channel strategy also seems to focus only on channel addition. This perspective fails to address the issue of channel deletion, which is currently exhibited by many firms. A firm cannot continue to increase channels because of the inability to get a commensurate return from the individual channel. In this regard, social exchange theory suggests that the relationship between two people or two organizations is created and maintained through a process of cost-benefit analysis (Blau 1964; Homans 1958). The core assumption of social exchange theory is that people or organizations seek to maximize their profits. If the costs outweigh the benefits, it may be an indicator that it's time to move on (Lambe, Wittmann, and Spekman 2001). For example, we make decisions regarding customers based on how much effort is needed compared to how rewarding the relationship would be to the firm (Luo and Kumar 2013). Further, we also consider whether to stay in the relationship and for how long by assessing pros and cons. Hence, social exchange affects the relationship between people or organizations and interaction may continue if the level of performance is deemed acceptable.

In an evolving retail landscape, firms need to adapt to the changes in the marketplace. Palmatier et al. (2016) contend that the channel system needs to adapt to the significant changes in the business environment, including the consolidation of channel intermediaries, the development of new channel formats, and increased online shopping. Several firms have undertaken channel

deletion in the past, e.g., Ryanair (a European low-fare airline) closed its airport check-in desks.[6] In Feb 2018, Best Buy announced the deletion of its mobile stand-alone store channel.[7] The CEO of Best Buy said, "We feel good about the opportunity to retain customers and transition them to another one of our sales channels." However, customers may show unwillingness in transitioning to another channel. Hence, the firm should have the requisite ability to transition the affected customers to the retained channels.

In recent years, various firms have undertaken channel deletion. Some examples of channel deletion are as follows:

- *Bebe*, a women's clothing retailer, is in the process of deleting its brick-and-mortar stores channel, and the retailer will continue to operate online.[8]
- *Sony* announced the deletion of its company outlets. The business will be redirected to Sony's online store and retailers, Sony said.[9]
- *The Limited*, a clothing retailer, announced the deletion of its brick-and-mortar stores channel, and the retailer continues online.[10]

Besides the above examples, several other firms (e.g., American Apparel, Bose Corporation, Steven Alan) have undertaken channel deletion. Levi Strauss & Co. halted direct sales to avoid channel conflict.

To avoid channel conflict, many firms attempt to create channel arrangements such that each channel caters to a particular segment of customers, e.g., one channel for high-value customers, and another channel for low-value customers. However, such an arrangement usually does not work as intended by the firms, because customers are changing and in their quest to get the best of both worlds, they approach more than one channel for the same requirement. Vinhas and Heide (2014) also argue that a manufacturer can only establish rules of which channel is allowed to serve a

[6] http://news.bbc.co.uk/2/hi/business/7903656.stm
[7] https://www.cnbc.com/2018/02/28/best-buy-to-close-all-250-of-its-smaller-mobile-phone-stores.html
[8] https://wwd.com/business-news/retail/bebe-shutters-all-stores-focus-online-retail-fashion-10855950/
[9] https://www.polygon.com/2015/1/17/7629599/all-sony-stores-in-canada-are-closing-down/
[10] https://www.washingtonpost.com/news/business/wp/2017/01/06/the-limited-is-closing-all-of-its-250- stores/

particular set of customers, however, the manufacturer cannot dictate to customers how to source their requirements. Such customer behavior leads to overlapping sales and generates conflict among channel members. Vinhas and Anderson (2005) contend that customers can destroy firm value through free-riding behavior as they may purchase in a discount channel while using the services of a premium channel. Accordingly, some kind of deliberate action is needed by the firms, and channel deletion can be the action to enable firms to respond to the changing behavior of customers.

Firms are undertaking channel deletion to become more efficient as well as for several other reasons. In Table 2, we provide key potential benefits and drawbacks associated with channel deletion. These benefits and drawbacks constitute relevant inputs into the channel deletion decision.

[Insert Table 2 about here]

Deletion does not solely involve offline channels, e.g., CompUSA and Levis Strauss deleted their online channel in the past (Yan et al. 2010). However, in the recent channel deletion instances, firms have predominantly deleted offline channels. Although both manufacturer and retailers are involved in channel deletion, in this study, we are not taking the perspective of customer facing retailers but rather that of a manufacturer/brand owner with a well-established channel presence involving one or more formats and intermediaries.

Conceptual Framework

Drawing on multiple theoretical perspectives, we present a conceptual framework delineating the antecedents and consequences of channel deletion. In Table 3, we provide the definitions of key terms.

[Insert Table 3 about here]

Whether a firm should keep a large number of channels or a relatively small number of channels is a part of a channel design decision (Anderson et al. 1997; Kotler and Armstrong 2013). Channel design refers to the development of new marketing channels or the modification of the

existing channel structure (Mehta et al. 2002; Rosenbloom 2012). Rosenbloom further states that channel design implies developing an effective and efficient channel structure. Hence, channel structure needs to be closely analyzed for successful channel design (Mallen 1973). Rosenbloom (2012) defines channel structure as "the group of channel members to which a set of distribution tasks has been allocated." Although number of channels, channel length, and distribution intensity have been considered as the dimensions of channel structure (Mallen 1973; Mehta et al. 2002), in this study, we focus on the number of channels, which is a key dimension of the channel structure.

We adopt the political economy paradigm (PEP) as the theoretical foundation to guide our understanding of why firms are involved in the channel deletion. Political economy paradigm has been used in a number of channel related studies (Achrol and Stern 1988; Dong, Zeng, and Su 2019; Dwyer and Oh 1987; Grewal et al. 2018). Stern and Reve (1980) assert that the adoption of this paradigm helps in the understanding of a channel phenomenon. Stern and Reve also note that the firm's choice of strategies in complex social environments is driven by the political and economic forces internal and external to the firm. Arndt (1983) argues that PEP is appropriate for analyzing exchange structures and processes within and between organization, as it focuses on authority and control patterns, conflict and conflict management procedures, and external and internal determinants of institutional change. The political economy framework suggests two major systems: 1) external political economy, and 2) internal political economy. Also, both the systems have two components: 1) economy, and 2) polity. Overall, PEP suggests that four dimensions - external economy (the prevailing and prospective economic environment in which channel exists), external polity (the external sociopolitical system in which channel operates), internal economy (the economic forces within the channel), and internal polity (the power-dependence relationship within the channel) - are likely to influence channel structure and behavior, which in turn impacts channel as well as firm performance (Achrol et al. 1983; Arndt 1983; Stern and Reve 1980).

Political economy framework helps in identifying the major variables which can influence channel structure and behavior (Stern and Reve 1980). Accordingly, we consider both economic and political (i.e., behavioral) aspects to identify key variables which can affect our focal construct (i.e., channel deletion). Regarding the consequences of channel deletion, we argue that channel deletion affects both channel entities and customers, but quite differently. We draw from social exchange theory and reactance theory to enhance our understanding of the consequences of channel deletion. In our study, we include channel cooperation as the effect of channel deletion on channel entities (supply-side consequences), and customer reactance as the effect of channel deletion on individual customers (demand-side consequences). Finally, channel deletion impacts firm performance. As noted by Grewal et al. (2018), firm performance (e.g., profit) is a key outcome in the political economy paradigm. Since, the relationship between channel deletion and its antecedents may be context dependent, we include contextual factors to conceptualize various relationship. As shown in Figure 1, we consider the contextual factors such as whether channel is firm-owned or externally-owned as well as whether customer is business customer (i.e., B2B) or end consumer (i.e., B2C). We also opine that firm performance (e.g., profit) may feeds back into the channel deletion decision, as prior performance could mitigate or build up pressure to delete a channel. Accordingly, we provide feedback loop in our proposed model.

[Insert Figure 1 about here]

Drivers of Channel Deletion

What factors may lead a firm to embrace channel deletion? As previously described, political economy framework can help in identifying the major variables which can influence channel deletion. Accordingly, we consider the four dimensions of PEP to come up with the drivers of channel deletion. First, the normal use of the transactional arrangements or the decision-making modes has been viewed as a part of the external economy (Arndt 1983), and competitors have been

considered to influence the direct exchange relationship of firm with its channel entities (Achrol et al. 1983). Kotler and Keller (2012) stress that in *competitive markets*, firms might need to drop individual marketing channels or channel members to be successful. Second, behavior of external actors (e.g., customers) may affect the organization's goals and internal functioning (Arndt 1983). With the digital innovation, shopping behavior of customers has been evolved and we observe increase in the *cross-channel buying* behavior (i.e., searching in one channel and purchasing in another channel). This is a vivid exemplar of external political force. Third, the task of the internal economy is to coordinate behavior and to allocate resources for promoting efficiency. From efficiency perspective, firms need to conduct the cost benefit analysis for its channels, and in case of greater number of channels (i.e., *channel access*), there is higher need to involve in such analysis. Also, degree of coordination (key aspect of internal economy) would be affected by the channel access. Fourth, the internal polity refers to the power system of the social unit and can be described as a mechanism for managing conflicts (Palmatier et al. 2016). *Channel power* helps firm in having better control over its channel entities and also in managing conflicts that lead to an effective distribution system and ultimately in achieving high levels of performance (Achrol et al. 1983; Gilliland et al. 2010; Jaworski 1988). In summary, our conceptual model of channel deletion includes market competition, cross-channel buying, channel access, and channel power as the representative variables of the four dimensions of PEP, i.e., external economy, external polity, internal economy, and internal polity, respectively. Accordingly, we consider these variables as the driving factors to channel deletion.

Outcomes of Channel Deletion

Channel cooperation. Management of the marketing channel is traditionally deemed a very challenging task as the interests of the manufacturer and channels entities are not always aligned, and their goals may be in conflict (Celly and Frazier 1996), ultimately leading to low channel

cooperation. In multichannel marketing, firms need to ensure that their channels work well together, as the channel would be most effective when all members cooperate to attain the overall objectives. However, channel cooperation has been identified as a major challenge for multichannel firms (Rangaswamy and Van Bruggen 2005). The deletion of the channel benefits the continuing channel entities as the firm's sales are shared among those entities only, which prompts continuing channel members to cooperate with the firm. In this context, social exchange theory postulates that individuals nurture a relationship because of the benefits of interactions in the relationship (Blau 1964). Due to channel deletion, continuing channel members receive the greatest share of the benefits and would therefore better cooperate with the firm. Stern and Reve (1980) assert that greater cooperation from channel members provide improved competitive strength and ultimately enhances the joint profits.

Customer reactance. Deletion of a channel would affect customers who purchase (or search) through that channel, and such a decision may inconvenience those customers (Konuş et al. 2014). Avery et al. (2012) contend that customers usually prefer to stay in the channel in which they shop. Forcing customers to use another channel may deter them because they may have to use a channel that they may not prefer (Neslin and Shankar 2009). In this situation, customers may experience a loss of freedom, provoking customer reactance (Reinders et al. 2008; Trampe et al. 2014). Reactance theory suggests that when people feel threatened in their freedom of choosing an action, they get an unpleasant feeling, called reactance (Brehm 1966). Vinhas and Heide (2014, p.164) also note, "customers are likely to react negatively when they feel the manufacturer is imposing constraints on their buying behavior." Such reactance may lead to a drop in the firm profit initially. However, the firm would be able to free crucial (financial and managerial) resources through channel deletion and may better utilize some of those resources in the remaining channels. Further, a firm may be able to increase awareness as well as incentivize affected customers appropriately to

shift to other channels. Verhoef (2012) contend that rewarding customers can help mitigate the negative effects of reactance. Also, through the reallocation of resources, the firm can strengthen retained channels and provide enhanced services to its customers. This may significantly improve customer satisfaction, thereby enhancing the firm profit (Anderson et al. 1994).

Discussion

This article addresses the call for research on channel deletions (Homburg et al. 2014; Srinivasan and Hanssens 2009). Extant research has mainly focused on channel addition and its impact on firm performance, despite the novel insights that can be gathered from a thorough understanding of channel deletion. To the best of our knowledge, the present study is the first study which presents a comprehensive framework to understand the channel deletion phenomenon. As the first in-depth study on this phenomenon, our research contributes to the marketing channels and buyer-seller literature streams through: 1) introducing a comprehensive framework of channel deletion and 2) examininig both the channel entities and customer aspects in the channel system.

Our framework offers insight into managing multichannel systems in the event of channel deletion. A firm can employ a large number of channels to increase the market coverage (Day 1981; Frazier and Lassar 1996), which is not necessarily the best decision because this approach is expensive and offers no guarantee of performance. The various channels vary in their costs of operation and effectiveness (Kumar and Venkatesan 2005). Hanssens and Pauwels (2016) further assert that the payoff of resource allocations differs across channels. Because of the differing profitability across channels, managers must ascertain which channels are most desirable (Avery et al. 2012). Given that business environments are dynamic, firms should not mistakenly embrace an outdated channel structure (Vinhas et al. 2010). The market mechanism forces a firm to make rational decisions, and accordingly deleting an inappropriate channel may be a good move; otherwise, in the long run, the firm may not survive the market.

Table 1. Representative examples of Channel deletion

Firm	Description	Announced
e.l.f. Beauty	e.l.f. Beauty said that it would close all its company outlets as it looks to focus on expanding its brand in national retailer and digital channels. The company view that the resources needed to operate own store can be better utilized in marketing, product development, and driving sales growth through retailer channels.	February 2019
Bose	Given the dramatic shift in online buying, Bose announced closure of all its US stores. The company statement said, "we focused on what our customers needed, and where they needed it — and we're doing the same thing now."	January 2020
Bebe	In the midst of trying to reorganize itself, Bebe announced today that it will shutter all of its brick-and-mortar locations by the end of next month. The company statement said that it would transition to an online-only model.	April 2017
Hamilton Beach	"We have evaluated strategic alternatives to maximize the value of the Kitchen Collection format and reached the difficult but necessary decision that it is in the best interests of the company and all of its stakeholders to wind down this format by the end of 2019," said Gregory Trepp, president and CEO of Hamilton Beach Brands Holding Company.	October 2019
Best Buy	Best Buy is planning to close all of its 250 smaller-format mobile phone stores by the end of May. CEO of Best Buy said, "We believe the best way to serve customers is to sell phones in channels where they have access to our whole range of connected devices."	February 2018
Sony	Sony said, "We are closing all our Sony Stores and will redirect this business through Sony retailers, Online … as well as through our Sony-trained Telesales team."	January 2015
Tesla	Tesla will stop selling solar door-to-door. The company plans to expand its retail and online sales of solar systems, including in Tesla stores. It will also continue selling systems through long-standing partnerships with retailers, including Home Depot and Best Buy. "We believe this decision reflects what most of our prospective customers prefer, and will result in a better experience for them … We expect the growth of these channels to end up more than offsetting the loss of door-to-door sales," Tesla said.	April 2017

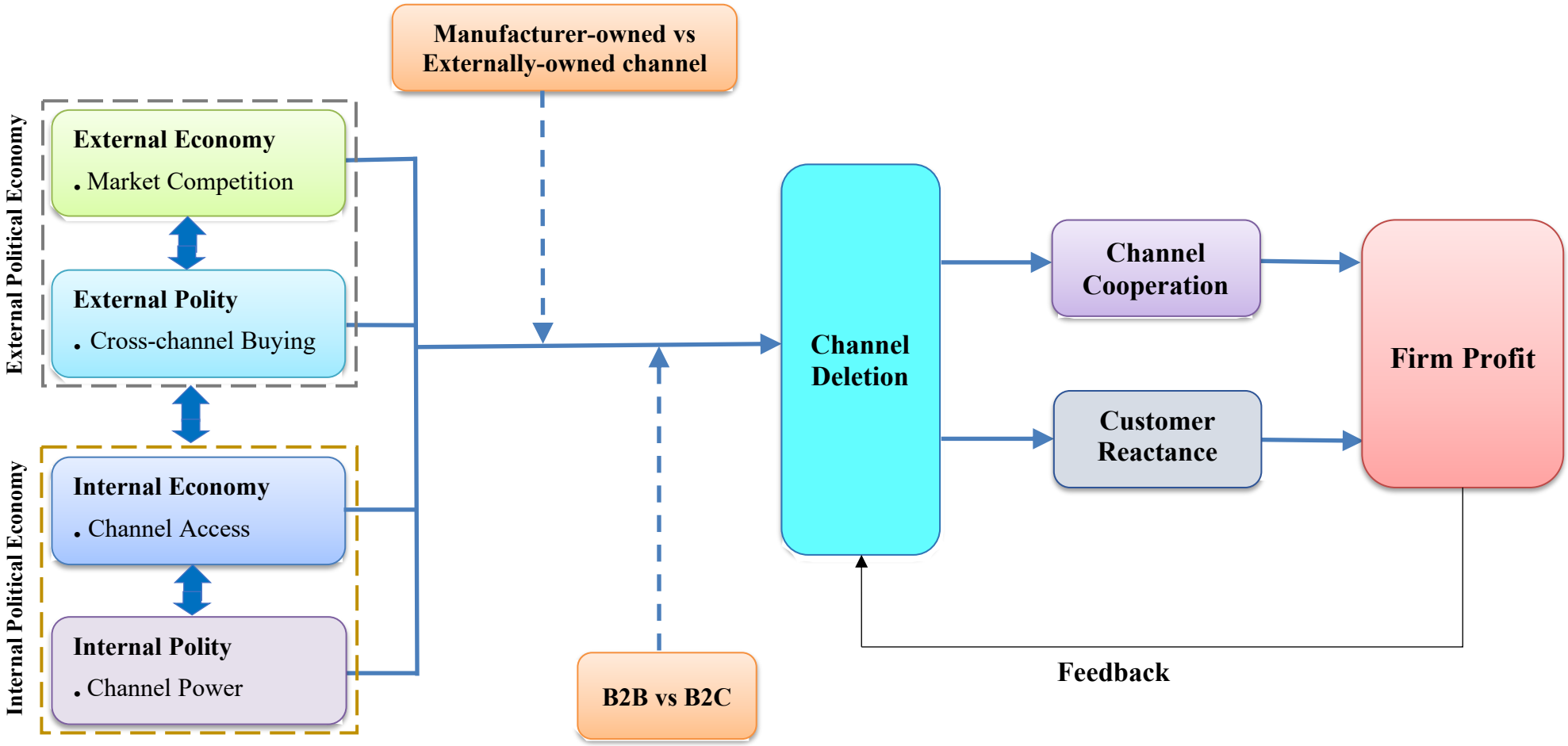
Table 2. Potential Benefits and Drawbacks of Channel Deletion

Benefits	Drawbacks
• Reduction in channel conflict • Reduction in channel cannibalization • Better channel control • Reduction in free-riding behavior • Low channel coordination effort • Reduction in distribution costs • Reduction in customer confusion • Freeing up resources for better utilization	• Customer inconvenience • Customer reactance • Reduction in market penetration • Decrease in sales • Reduction in information • Business risk

Table 3. Definition of Key Terms

Key terms	Definition	Source
Channel	The medium through which the firm and the customer interact	Neslin et al. (2006)
Marketing channel	The sets of interdependent organizations involved in the process of making a good or service available for consumption or use	Palmatier et al. (2016)
Channel design	The development of new marketing channels or the modification of existing channel structure	Mehta et al. (2002); Rosenbloom (2012)
Channel structure	The group of channel members to which a set of distribution tasks has been allocated	Rosenbloom (2012)
Channel deletion	Activity involving the decision to discontinue a channel from the firm's channel mix	
Channel conflict	The dispute that occurs when one channel member's action prevent another channel from achieving its goal	Kumar et al. (1992)
Horizontal channel conflict	The dispute that occurs among the firm's channels	Coelho and Easingwood (2004); Fürst et al. (2017)
Vertical channel conflict	The dispute that occurs between the channel and the firm's management	Fürst et al. (2017); Webb and Lambe (2007)
Channel cannibalization	Reduction in sales in a preexisting channel, due to the introduction of another channel	Avery et al. (2012)
Channel control	The uses of power to create an effective and efficient allocation of resources within channel structure	Frazier and Rody (1991)
Channel cooperation	The extent to which channel members work together with one another and the firm's management in a close and constructive manner	Anderson and Narus (1990)
Channel coordination	The simultaneous and consistent employment of various channels	Mohr and Nevin (1990); Pentina and Hasty (2009)
Market competition	The degree to which the market of the company is characterized by intense competition	Fürst et al. (2017); Kumar et al. (1992)
Channel power	The ability of a firm to alter channel members' behavior so that they take actions they would not have taken otherwise	Anderson and Coughlan (2002); Draganska et al. (2010)
Customer cross-channel buying	The propensity of the firm's customers to switch channels within purchase	Fürst et al. (2017); Verhoef et al. (2007)
Channel access	The number of channels utilized by the firm in the multichannel system	Jindal et al. (2007); Fürst et al. (2017)
Customer reactance	Motivational state in which a customer feel threatened in its freedom of choosing an action	Brehm (1966, 1989) Trampe et al. (2014)

Figure 1. Channel Deletion: A Conceptual Framework



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Chapter 3

Essay 2: The Effect of Channel Deletion and Channel Contraction on Firm Value and Firm Risk

Abstract

With the advent of online, mobile, and social media channels, firms have an array of channels in their channel mix. The proliferation of channels has increased marketing costs and may be detrimental to a firm's competitive position. Although channel deletion is currently receiving special attention in the industry, an understanding of its influence on firm value remains scant. Along with channel deletion (i.e., full deletion), firms are also involved in the channel contraction (i.e., partial deletion). While these strategies aim to reduce costs, thereby improving efficiency, there is a perception of risk (i.e., uncertainty over future cash flows). Using the data of 314 announcements made by 146 publicly traded U.S. firms across 39 industries over five years, we demonstrate the significant effect of channel deletion and channel contraction strategies on firm value and firm risk. We also observe that stock market reaction to channel deletion is more favorable than channel contraction; however, the firm value associated with the channel deletion attenuates in case of higher market turbulence. Further, channel deletion strategies enhance firm risk; however, the advertising intensity helps in reducing the risk. The study offers important insights regarding the channel deletion and contraction strategies for marketing theory and practice.

Keywords: channel deletion, channel contraction, marketing channel, marketing-finance interface, firm value, firm risk

Introduction

Channel strategy is foundational for every business and a key source of competitive advantage (Coughlan and Jap 2016). With the commercialization of the internet and subsequent digital innovation, firms have added many channels, including the company outlet, retail store, wholesale distributor, franchisee, online, call center, and mobile app. Such a proliferation of channels has magnified the costs of selling the products or services. In the end, firms need to assess whether the costs associated with each channel are commensurate with the expected benefits. Neslin and Shankar (2009) note that multichannel customer management is not only about the introduction of new channels but also about their elimination. Owing to resource constraints, managers are typically asked by their firms to evaluate the benefits of adding as well as subtracting a channel (Coughlan and Jap 2016).

We define *channel deletion* as an activity involving the decision to discontinue a channel format and/or reliance on a class of intermediary. Although, there may be an apprehension of associated risk (i.e., uncertainty over future cash flows), we contend that channel deletion has the potential to enhance firm value because a firm can free up resources by deleting a channel and subsequently redeploy some of these resources in the continuing channels to enhance the competitive standing and financial performance (Kumar 2003; Varadarajan, DeFanti, and Busch 2006). Due to the redeployment of freed-up resources (financial as well as managerial), the continuing channels would be in a better position to provide enhanced services to the customers.

Recently, we have observed many instances of channel deletion. For example, in February 2019, Tesla, Inc. (a U.S. Electric vehicle manufacturer) announced that it would eliminate its brick-and-mortar retail channel in pursuance of diverting more resources into

improving the services in other channels.[11] As another example, in January 2015, Sony closed all its company outlets.[12] The company stated, "We are closing all our Sony Stores and will redirect this business through Sony retailers, Online … as well as through our Sony-trained Telesales team." In February 2018, Best buy deleted its mobile stand-alone store channel.[13] In the recent past, many more firms such as Bebe, American Apparels, and Steven Alan have undertaken channel deletion. Firms are realizing that continuing a large array of channels increases marketing costs without providing commensurate benefits.

Channel deletion is an emerging phenomenon in the real world, and researchers suggest to study this topic (Homburg, Vollmayr, and Hahn 2014; Verhoef, Kannan, and Inman 2015). While academic research shows that channel deletion influences purchase behavior of customers (Konuş, Neslin, and Verhoef 2014), no research has examined whether channel deletion influences firm value. Frazier (1999) notes that empirical marketing research has remained largely silent on the market value of channel measures. Srinivasan and Hanssens (2009) also state, "the relationship between channel strategy and market valuation is under-researched … research is needed on channel deletions as well." Adding or dropping distribution channels or even specific distribution channel partners is not trivial (Ailawadi 2021). Despite the theoretical and practical importance of channel deletions and its outcomes, research on this topic is scarce.

Van Bruggen et al. (2010) note that in their distribution system, firms not only need to consider the number of channels but also the intensity within each channel. Perreault Jr, Cannon, and McCarthy (2013) state that the ideal distribution intensity would make a brand available widely enough to satisfy, but not exceed, target customers' needs. Over the years, firms do add

[11] https://www.cnet.com/roadshow/news/tesla-close-stores-online-sales-model-3/
[12] https://www.polygon.com/2015/1/17/7629599/all-sony-stores-in-canada-are-closing-down/
[13] https://www.cnbc.com/2018/02/28/best-buy-to-close-all-250-of-its-smaller-mobile-phone-stores.html

or subtract channel or channel partners (Coughlan and Jap 2016). In real life, we have observed numerous instances of firms' involvement in channel contraction (i.e., partial deletion). Homburg et al. (2014) specifically mention that future research should investigate both channel deletion and channel contraction.

We define *channel contraction* as an activity involving the decision to decrease the number of channel entities within an existing channel. An illustrative example of channel contraction is the reduction of 160 retail stores by Crocs (a footwear manufacturer) in March 2017.[14] As another example, Sears closed 80 retail stores in December 2018.[15] In Table 1, we provide a few representative examples of channel deletion as well as channel contraction.

[Insert Table 1 about here]

Investors and managers have an interest in both return and risk; examining one without the other results in an incomplete picture. Extant literature suggest that firm (stock) risk is a key component of shareholder value that matters to financial markets and managers (Grinblatt and Titman 1998; Tuli and Bharadwaj 2009). In this research, we investigate the effect of channel deletion and channel contraction on firm value as well as firm risk. Firm risk is marked by stock price volatility and can be captured through idiosyncratic risk. *Idiosyncratic risk* reflects the portion of risk associated with firm-specific actions, and it accounts for 80% of a firm's total risk (Han, Mittal, and Zhang 2017; Tuli and Bharadwaj 2009). A firm has more information than investors about its important marketing resource changes (e.g., channel deletion), which creates an information asymmetry. This situation leads to increased investors' uncertainty about the firm's intention, resulting in higher stock volatility (i.e., risk).

[14] https://www.retaildive.com/news/crocs-to-close-160-stores-by-the-end-of-2018/437260/
[15] https://www.usatoday.com/story/money/2018/12/28/sears-store-closing-list-80-more-sears-kmart-stores-close-march/2433974002/

Through our study, we attempt to answer the following research questions:

1. What are the effects of channel deletion and channel contraction on firm value?
2. Do channel deletion and channel contraction cause firm risk?
3. Is channel deletion more harmful than channel contraction on firm value, and firm risk, or vice versa?
4. Are the effects of channel deletion and channel contraction on firm value, and firm risk, context dependent?

We address these questions by developing and empirically testing hypotheses that relate channel deletion and channel contraction to firm value and firm risk. We develop and estimate our model using a data set of 314 announcements (made by 146 publicly traded U.S. firms) assembled from multiple data sources across 39 industries over five years spanning between 2015 and 2019. We do not include 2020 in our dataset because many firms were forced to move from offline to online due to an unprecedented exogenous shock (i.e., COVID-19). Utilizing the event study method, we calculate abnormal stock returns and idiosyncratic risks associated with channel deletion and contraction. To account for potential selection bias, we specify a multinomial selection model (Bourguignon, Fournier, and Gurgand 2007). Finally, we use a seemingly unrelated regression model to test our hypotheses.

First, we find a significant stock market response associated with channel deletion and contraction. The study results show that both channel deletion and channel contraction have positive association with firm value; however, channel deletion strategies lead to negative abnormal returns in 40% of the instances. Second, we find that the magnitude of the stock market response is context dependent and varies by market turbulence and advertising intensity. In particular, firm value associated with the channel deletion is attenuated for firms operating in the market with greater turbulence. Third, channel deletion is significantly associated with the risk, whereas channel contraction has no significant association with it. Further, advertising intensity reduces the risks associated with both channel deletion and channel contraction. Owing to the

study's cross-industry research design, we believe that the insights gained from the empirical analysis are largely generalizable.

Our study makes important contributions to both marketing theory and practice. From a theoretical perspective to our knowledge, this research offers the first detailed explanation of how and why channel deletion affects firm value and risk, how these effects differ from those of channel contraction, and what are some of the factors, which moderate these effects. This study contributes to the literature by exploring both firm value and firm risk. From a practitioner viewpoint, it helps managers better understand both the returns and risks associated with channel deletion and channel contraction, thereby make more informed decisions on these issues. Taken together, the theoretical explanations and new insights can offer substantial value to the field.

We organize the rest of the paper in the following manner. First, we provide the managerial relevance of this study by using a triangulation approach that discusses marketplace evidence, related research, and managerial interactions, followed by our conceptual framework and a set of hypotheses explicating the relationship presented in the framework. We then provide our modeling approach and describe the results. Finally, we discuss the managerial implications for theory and practice, and conclude with the limitations and future directions for this research.

Study Importance

We infer the importance of our study by employing a triangulation approach: using marketplace evidence, related literature, and managerial interactions.

Marketplace Evidence: Previously, we provided a few examples of channel deletion and channel contraction as the marketplace evidence (Table 1). We use this marketplace evidence to augment the understanding of channel deletion strategies. For example, Sony opted for the deletion of its online channel in August 2015 with the perception of getting cooperation from the

retained channel entities (e.g., retailers).[16] As another example, e.l.f. Beauty went for channel deletion of its company outlets in February 2019. At that time, analysts noted that the deletion would help the firm better allocate its resources to other channels, product development, and brand-building activities.[17] Such examples help us to understand the expectations of the marketplace as a consequence of channel deletion strategies.

Related Literature. Multiple channels provide positive outcomes through the extended market coverage; however, firms may get hurt as a multiple channel structure can be very difficult to manage (Stern, El-Ansary, and Coughlan 1996). Extant research studies have shown that the introduction of the new channel is positively related to the firm value (Geyskens, Gielens, and Dekimpe 2002; Homburg et al. 2014). Conversely, some researchers have expressed their concern about the cannibalization hazards faced by the firms due to the new channel, especially in case the new channel is similar to an existing channel (Pauwels and Neslin 2015). Further, when a firm uses a large number of channels, the number of people required to control channel activities increases, thereby creating room for communication problems. In this situation, it becomes very difficult for the firm to coordinate marketing efforts and ensure a consistent level of service across channels. If the firm's offer reaches the market with different service levels, it leads to customer resentment and confusion (Coelho, Easingwood, and Coelho 2003). Hence, the relationship between the number of channels and firm performance may be more complex than previously thought, and the strategy of using many channels may not be appropriate.

To date, there is only one study on channel deletion, and it focuses on the deletion of a search channel. In this study, Konuş et al. (2014) examined the impact of eliminating a search

[16] https://www.imaging-resource.com/news/2015/08/01/sony-says-its-closing-its-online-us-store-on-august-28th
[17] https://www.marketwatch.com/story/elf-beautys-plan-to-close-all-of-its-stores-gets-analyst-support-2019-02-27

channel on customer purchase behavior in terms of purchase incidence, order size, and channel choice. The study found that channel elimination decreases purchase incidence; however, order size per purchase increases. The authors also observed that savings from eliminating the search channel compensate for lower sales revenue, leading to a net positive impact on profit. In our study, we focus on the deletion of transaction channels. The study of Srinivasan et al. (2013) talks about the effect of opening and closing stores on the chain retailer's performance (especially on firm value). This study is somewhat closer to our research; however, our research is different for at least three reasons: 1) we consider deletion of all types of transaction channels, 2) our study includes the manufacturer and retailer, and 3) we focus on firm value and firm risk.

In the extant literature, we find studies for the new product announcement (Rao, Chandy, and Prabhu 2008; Warren and Sorescu 2017) as well as product deletion and product recall (Avlonitis 1985; Boulding, Morgan, and Staelin 1997). Similarly, there are studies on both brand addition and brand deletions (Varadarajan et al. 2006; Wiles, Morgan, and Rego 2012). As far as channels are concerned, prior studies primarily focused on channel additions (Geyskens et al. 2002; Homburg et al. 2014). While channel deletion currently receives special attention in many industries, studies on channel deletion are scant.

Channel deletion is not similar to brand deletion, as the value-generating conditions for channel deletion may differ from that of brand deletion. For example, brand deletion is beneficial in case of disposal of a brand that is relatively *unrelated* to the rest of the brand portfolio due to unlikely potential synergy (Wiles et al. 2012). However, channel deletion is beneficial if the channel being deleted is relatively *similar* to an existing channel by way of reducing the cannibalization hazards (Pauwels and Neslin 2015).

Managerial Interactions: Based on our interaction with 34 managers from various firms across industries (see Appendix A for more details), we present the key findings related to this study. For example, channel deletion may not be considered as the opposite of channel addition. An important difference between channel addition and channel deletion is that firms have a lot more information about their channels when considering deleting the channel than they have about adding a new channel. However, channel deletion may lead to the loss of some of the benefits associated with channel addition, such as the inability to access certain target markets and thereby the lack of information about the market, competition, and customers (Homburg et al. 2014). Also, in the case of channel deletion, firms may need to deal with a lot more issues such as customer backlash, permanent loss of the customer, and transitioning customers between the channels. Hence, channel deletion decision depends on how firms can react to these issues. Further, channel deletion may not be considered just as a cost-saving measure; rather, it involves various channel related issues, including channel coordination and channel cooperation.

In summary, the triangulation approach clearly presents evidence for the need to conduct this study.

Conceptual Framework and Hypotheses Development

When a firm undertakes channel deletion or channel contraction, investors update their expectations of the firm's future cash flows, (which reflects the firm value) as well as vulnerability in future cash flows, (which reflects the firm risk). Since risks and returns are a measure of stock price informativeness, we use Information economics as the theoretical foundation for our work (Connelly et al. 2011; Spence 1973; Stiglitz 2000). Information economics theory identifies two mechanisms: Screening and Signaling. We use these mechanisms to contextualize the link of channel deletion and contraction with firm value and

firm risk. Investors vigilantly scan the environment and typically consider market turbulence as a screening cue. Also, firms signal a credibility cue not only to reduce the investors' uncertainty, but also to enhance their confidence in the firm's action. Prior research suggests that advertising intensity serves as an important market signal to suggest a firm's financial well-being to the investors (Joshi and Hanssens 2010; Srinivasan et al. 2013). Hence, in our study, we explore whether the financial market's reaction to channel deletion and contraction is moderated by (a) market turbulence, and (b) advertising intensity. In Figure 1, we present our conceptual framework delineating the relationships of channel deletion and channel contraction with moderators, firm value, and firm risk.

[Insert Figure 1 about here]

The Effect of Channel Deletion on Firm Value and Firm Risk

We expect that channel deletion would enhance firm value for at least three reasons. First, the firm is able to free financial and managerial resources due to channel deletion. Some of the untied resources can be employed on continuing channel entities to strengthen those entities. Hence, the firm would be able to provide superior services to its customers through the retained channels, which in turn may enhance the satisfaction and loyalty of customers. Thus, we expect that channel deletion would enhance firm value. Second, in an organization, different channels are typically managed by different managers. Resource misallocation usually occurs when there is a lack of proper coordination among these managers. Specifically, different managers may be overspending on their respective channels, which may decrease the level of future cash flow. Through channel deletion, the firm is in a better position to control such resource misallocation, which may lead to enhanced cash flows, and thereby an increased firm value. Third, channel members typically possess more information about the market than the manufacturer (Desiraju

and Moorthy 1997; Gu et al. 2010). This information asymmetry creates incentives for the channel members' opportunism (Wathne and Heide 2000). Transaction cost economics explicates that the firm's managers can be exploited by opportunistic channel members in such a situation (Watson IV et al. 2015). The opportunistic behavior of channel members restricts value creation and, in the long-term, adversely affects the manufacturer's performance (Wathne and Heide 2000). To reduce the opportunistic behavior of channel members, the manufacturer uses monitoring as a control mechanism (Wang, Gu, and Dong 2013). In the case of a leaner channel mix (due to channel deletion), a firm is in a better position to monitor its channel network, thereby able to reduce opportunism. Such a reduction in channel members' opportunistic behavior can improve a manufacturing firm's performance. Finally, channel deletion is expected to benefit the retained channel entities, as the sales would get shared among those entities only. As posited by the social exchange theory, in this situation, the channel entities would have a higher motivation to stay and cooperate with the firm. This act of channel entities helps in customer acquisition and retention, ultimately leading to an improved firm performance (Achrol and Etzel 2003).

On the other hand, deletion strategies may be perceived as risky. Channel deletion may inconvenience customers, which can reduce their satisfaction. Also, in such a situation, customers may display a lower commitment to the firm, thus increasing the volatility of future cash flows. Since channel deletion impacts a larger customer base, this implies that it may lead to greater vulnerability in the cash flows. Overall, channel deletion may decrease the predictability of a firm's future income streams because of which it is associated with risk. Additionally, the firm-specific news about the channel deletion may lead to larger fluctuations in the stock price as

investors may not have clarity about such a move, i.e., whether the focal firm is undertaking a restructuring measure or is facing financial hardship. Therefore, we contend:

H_1: Channel deletion is positively associated with (a) firm value, and (b) firm risk.

The Effect of Channel Contraction on Firm Value and Firm Risk

We expect that channel contraction (i.e., partial deletion) would enhance firm value for at least three reasons. First, due to channel contraction, the firm can free the crucial resources (as in the case of channel deletion). Some of the untied resources (i.e., money, personnel, time) can be employed on the continuing channel members. The greater deployment of resources on the continuing channel members facilitates them in performing the tasks, which would enhance the performances. However, the cost savings would be lower in case of channel contraction. Second, in case of increased distribution intensity, intrachannel competition heightens for a manufacturing firm because a greater number of channel members (e.g., independent retailers) compete for the similar customers. This competition may lead to a lower cost efficiency due to increased cannibalization (Deleersnyder et al. 2002). Third, increased distribution intensity has a greater potential to enhance the free-riding behavior of channel members on sales services (Dutta, Heide, and Bergen 1999; Vinhas and Anderson 2005). To reduce such negative behavior of channel members, firms may need to take disciplinary actions. In this regard, the network theory suggests that the disciplinary action against a member (e.g., channel contraction) forces other members to focus more on their performance. Even a small change in one area can have a huge impact on the overall network. By observing the punitive act of the manufacturer, channel members' attitudes, interests, and behaviors are more likely to realign with the manufacturer's expectations. Hence, from a network perspective, the members of continuing channels learn from

the firm's action and become more compliant and diligent in satisfying the requirements of the manufacturer, which helps the manufacturer in achieving superior performances.

Conversely, channel contraction may inconvenience the customer (as in the case of channel deletion), which may enhance volatility in revenue stream (i.e., firm risk). However, in this case (in comparison with channel deletion), a relatively smaller customer base would be affected. Also, channel contraction does not reduce the diversity of channel system. Hence, association of channel contraction with idiosyncratic risk may be weak. Accordingly, we hypothesize:

> H_2: (a) Channel contraction is positively associated with firm value but less valuable than channel deletion, and (b) Channel contraction is positively associated with firm risk but less harmful than channel deletion.

The Moderating Effect of Market Turbulence

We expect that market turbulence may influence the firm value associated with channel deletion or channel contraction. Jaworski and Kohli (1993) note that changes in customer preferences lead to market turbulence. Investors tend to be more cautious while evaluating firm performance in case of a more turbulent market than in the less turbulent market. We believe that the positive influence of channel deletion or channel contraction on firm value would be less salient in markets with a greater turbulence than in those with a lower turbulence for at least two reasons. First, a firm's products and services are likely to require relatively little modification in less turbulent markets where the customers' preferences do not change much. Morgan, Anderson, and Mittal (2005) note that consumers exhibit relatively invariant choices in stable markets. By contrast, firms that operate in the more turbulent markets have to modify their products and services continually in order to satisfactorily cater to customers' changing preferences. Chung and Low (2017) also note that in industries with a high market turbulence, firms constantly need

to invest heavily in marketing activities such as sales efforts, promotions etc. As firms need to spend more resources to meet changing customer preference in case of high market turbulence, cost savings achieved due to channel deletion or contraction may not remain intact. Second, in more turbulent market, retained channel entities are less likely to get additional sales due to deletion act of the firm, thus they would not have additional motive to cooperate with the focal firm. In such a situation, it is likely that the channel entities will act opportunistically, i.e., they can defect the focal firm and join the competitors (Dutta et al. 1999). Hence, a firm needs to invest in additional safeguarding and monitoring. This would reduce the cost savings generated due to channel deletion or contraction. Third, taking disciplinary action against channel members in the turbulent market may heighten negative sentiments among the retained channel members, which can lower their performances. Overall, we expect that channel deletion or channel contraction is more likely to translate into lower firm value in more turbulent markets than in less turbulent markets. Stated formally:

> H_3: The greater the market turbulence, the weaker the positive relationship of (a) channel deletion, and (b) channel contraction, with firm value.

We also expect that market turbulence may influence the firm risk associated with channel deletion or channel contraction. In more turbulent markets, firms compete more intensely, and in this situation, customers are more likely to switch to competitive offers. In market with greater turbulence, even highly satisfied customers are difficult to retain. Hence, channel deletion or channel contraction is more likely to translate into higher risk. On the contrary, in less turbulent markets, it is easier to meet customer preferences, which should lower customers' perceived inconvenience due to channel deletion or channel contraction. Overall, we expect that channel deletion or contraction is more likely to translate into higher risk in more turbulent markets than in less turbulent markets. Accordingly, we propose:

H_4: The greater the market turbulence, the stronger the positive relationship of (a) channel deletion, and (b) channel contraction, with firm risk.

The Moderating Effect of Advertising Intensity

We focus on advertising intensity because it provides credibility signal to investors in firm's action (Joshi and Hanssens 2010; Panagopoulos, Mullins, and Avramidis 2018; Srinivasan et al. 2013). We expect that firm's advertising intensity may influence the firm value associated with the channel deletion or contraction for at least two reasons. First, advertising enhances both current and future sales (Joshi and Hanssens 2010), it would directly benefit the retained channel entities. Hence, focal firm would get more cooperation from those entities resulting in a greater firm value. Second, advertising enhances a customer's preference towards the focal firm (Keller 1993). The superior services from the retained channel entities in lieu of channel deletion make customers attached to the focal firm, with results even stronger in the case of prior preference generated through advertising. Hence, we expect that the firm value associated with channel deletion or channel contraction would be higher for the firms, which are involved in higher advertising. Accordingly, we propose:

H_5: The higher the advertising intensity, the stronger the positive relationship of (a) channel deletion, and (b) channel contraction, with firm value.

We also expect that advertising intensity may influence the risk associated with channel deletion or contraction for at least two reasons. First, advertising intensity influences investors through quality-signaling mechanism, i.e., more advertising signals a firm's financial well-being to investors (Joshi and Hanssens 2010). The investors may perceive that channel deletion strategies are being undertaken by firm as a restructuring move. The higher advertising intensity signals firm's competitive viability and commitment to growth (Panagopoulos et al. 2018), making adverse market reaction (i.e., risks) due to channel deletion or contraction less sensitive.

Panagopoulos et al. (2018) also argue that firm advertising intensity lessens information asymmetry through quality signaling, which increase investors' belief that the firm has ability to effectively compete in the market. Hence, firms with higher advertising intensity should enjoy a buffer in comparison to firms with lower advertising intensity when investors are leaning toward assigning risk associated with the channel deletion or contraction to the firm.

Second, advertising signals the quality of product to the customers (Moorthy and Zhao 2000), and also differentiates firm's product in the mind of customers (Joshi and Hanssens 2010). Advertising impacts customers' attitude and behavior favorably (Brodie, Whittome, and Brush 2009; Vakratsas and Ambler 1999), which may result in the lower discontent of customers towards the focal firm for the inconvenience due to channel deletion or channel contraction. Hence, the customer would stick with the focal firm, which would reduce the risk induced due to channel deletion or channel contraction. Based on these arguments, we contend:

> H_6: The higher the advertising intensity, the weaker the positive relationship of (a) channel deletion, and (b) channel contraction, with firm risk.

Research Method

Data Collection

To empirically test our hypotheses, we compiled a sample of channel deletion and channel contraction from Lexis-Nexis, Factiva, and newswire services including PR Newswire and Business Wire. We assembled data for our study from different sources as these data are not readily available from a single source. First, we obtained firms' annual operational and financial information from Standard & Poor's Compustat database. Second, we obtained firms' daily stock information from the University of Chicago's Center for Research in Security Prices. Finally, we obtained data on the daily risk factors (i.e., market, size, value, and momentum factor) from Kenneth French's Data Library (http://mba.tuck.dartmouth.edu/pages/ faculty/ken.french/

data_library.html). The sample includes publicly traded firms listed on the three major stock markets in the United States (i.e., AMEX, NYSE, and NASDAQ).

We searched the channel deletion and contraction announcements in various news sources (e.g., Lexis-Nexis, Factiva, and Newswires) using a combination of search terms, one for the channel (e.g., store or retailer or online) and other for deletion (e.g., eliminate or stop or discontinue) as well as contraction (e.g., shrink or deplete or curtail). Using this search protocol, we identified announcements that talk about channel deletion or channel contraction and come up with over thirty one thousand news articles. We then performed content analysis to the news articles and captured the main concept within the text. By doing this, we arrive at approximately nine hundred news articles that talk about channel deletion or channel contraction. Subsequently, we scrutinized the news articles to categorize announcements into channel deletion and channel contraction and also identify the channel. Finally, we compiled a list of 357 channel deletion and contraction announcements. The use of multiple sources to gather deletion announcements helped ensure that we identify as many events as possible and enable validation of the earliest public release of information. As suggested in the literature, we screened events for contemporaneous financial (e.g., quarterly reports, dividend announcements), management (e.g., executive management changes, mergers and acquisitions), and marketing (e.g., new product releases) announcements occurring within two days either side of the announcement. After removing observations with missing values and confounding events, the final sample comprised of 314 observations (made by 146 firms over five years across 39 four-digit Standard Industrial Classification [SIC] code industries). In Table 2, we present the distribution of firms across industries.

[Insert Table 2 about here]

Dependent Variables

Abnormal Stock Return. A firm's stock price reflects investors' aggregate expectations regarding the firm's future cash flows (Fama 1991). Investors' reactions to channel deletion or channel contraction would be based on their expectations of its impact on the firms' cash flows. In our study, we measure firm value through the Abnormal Stock Return (AR). We compute AR through the event study method, which has long been used by marketing scholars to quantify the economic returns associated with the firm's marketing actions (Horsky and Swyngedouw 1987; Tellis and Johnson 2007). Using Fama-French-Carhart four factor model (Carhart 1997; Fama and French 1993), we calculate abnormal returns on event day as well as cumulative abnormal returns (CAR) for several windows, including seven days before and after the event day, to account for information leakage before the event day or information dissemination after the event day. Given the conventional view that markets move quickly to fully impound the profit performance implications into security prices at the event (Fama 1970), we focus primarily on the short-horizon abnormal returns around the event in our analysis. However, as a robustness measure, we calculate long-horizon stock return to check for anomalies in investors' reaction at the event that might occur if investors underreact or underappreciate such information (Jacobson and Mizik 2009).

Following Swaminathan and Moorman (2009), we estimate the stock market return of each firm from the CRSP database during a 240-day period ending ten days before the event day. According to this model, expected abnormal returns are calculated taking into account four distinct risk factors: market, size, value, and momentum.

$$R_{it} - R_{ft} = \alpha_i + \beta_{1i} (R_{mt} - R_{ft}) + \beta_{2i} (SMB_t) + \beta_{3i} (HML_t) + \beta_{4i} (UMD_t) + \varepsilon_{it}$$

where i stands for firm, t stands for time (i.e., event day), R_{it} denotes the returns for firm i at time t, R_{mt} is the average return of all stocks trading at time t, R_{ft} is the risk-free rate of return at time t, SMB_t is the difference between rate of returns of small and large-market capitalization stock portfolios on day t (i.e., size factor), HML_t is the difference between returns of high and low book-to-market stock portfolios on day t (i.e., value factor), and UMD_t is the difference between rate of return of high and low prior return stock portfolio on day t (i.e., momentum factor). ε_{it} is the independent and identically distributed error term.

We used the estimates obtained from the Carhart four-factor model to predict the daily abnormal returns (AR_{it}) for each firm for the event days. The abnormal return to an event is calculated as the difference between the normal return, which would have occurred on that day given no event and the actual return that did occur because of the event, thus:

$$AR_{it} = R_{it} - E(R_{it}) = R_{it} - \{\hat{\alpha}_i + \hat{\beta}_{1i}(R_{mt} - R_{ft}) + \hat{\beta}_{2i} SMB_t + \hat{\beta}_{3i} HML_t + \hat{\beta}_{4i} UMD_t\}$$

Next, we need to determine an appropriate event window $[t_1, t_2]$ that is long enough to ensure any information leakage as well as dissemination of information regarding the channel deletion or channel contraction announcement. Assuming efficient information processing, an event window should be as short as possible (McWilliams and Siegel 1997), which suggests an event window that encompasses only a specific trading day (Boyd, Chandy, and Cunha Jr 2010). In addition to this theoretical consideration, we also validate the event window empirically, following established procedures (Geyskens et al. 2002; Warren and Sorescu 2017). We calculate the cumulative abnormal returns of the firms in our sample for various event windows and tested the significance of these event windows:

$$CAR_i[t_1, t_2] = \sum_{t=-t_1}^{t_2} AR_{it}$$

Idiosyncratic Risk. Standard deviation of ε_{it} (i.e., error term) represents the idiosyncratic risk. We estimate the risk due to channel deletion or contraction by comparing the risk before and after the event (Thomaz and Swaminathan 2015). Following Das, Sen, and Sengupta (1998) and Thomaz and Swaminathan (2015), we calculate the firm idiosyncratic risk for the period between –60 trading days and –10 trading days before the announcement, as well as for the period between +10 trading days and +60 trading days after the announcement, using the deletion announcement as the day 0. The difference between these two measures is our dependent variable idiosyncratic risk.

$$Idiosyncratic\ risk_{it} = \sqrt{\frac{1}{50}\sum_{t=10}^{60}(\varepsilon_{it} - \overline{\varepsilon_{it}})^2} \quad - \quad \sqrt{\frac{1}{50}\sum_{t=-60}^{-10}(\varepsilon_{it} - \overline{\varepsilon_{it}})^2}$$

Independent and Control Variables

We code the channel deletion and channel contraction according to the information gathered from various sources. We measured market turbulence as the standard deviation of sales growth within the industry over the three years preceding the event (Homburg et al. 2014). To measure advertising intensity, we used the reported advertising expenditure of a firm in relation to the sales (Malshe and Agarwal 2015). Since U.S. Security and Exchange commission requires firms to disclose advertising expenditure, we assume that a firm's advertising expenditure is zero in the case of non-disclosure of this information (Jindal 2020). Several extraneous factors can influence our proposed relationships. To account for such effects, various firm-level and industry-level control variables are considered as prescribed in the literature. We present the details of control variables in the Appendix B. In Table 3, we provide an overview of the variables, its operationalization, data sources, and literature sources. The summary statistics of the key variables is presented in Table 4. The mean abnormal stock return in the sample is

0.64, and idiosyncratic risk is 0.11 respectively. Table 5 shows the correlation matrix for the key variables.

[Insert Tables 3, 4, and 5 about here]

Model Specification

To test the hypothesized relationship of contextual factors, we develop a regression model for the firm value and firm risk.

$$Firm\_Value_{it} = \alpha_0 + \alpha_1 Market\_Turbulence_{it} + \alpha_2 Advertising\_Intensity_{it} + \alpha_3 Market\_Size_{it} + \alpha_4 Market\_Growth_{it} + \alpha_5 Market\_Concentration_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Sales\_Growth_{it} + \alpha_8 ROA_{it} + \alpha_9 Financial\_Leverage_{it} + \alpha_{10} Profitability_{it} + \alpha_{11} SGA\_Ratio_{it} + \alpha_{12} B2B_i + \alpha_{13} Product_i + \sum_{m=1}^{M} \pi_m Industry_m + \sum_{k=1}^{K} \theta_k Year_k + \varepsilon_{it}$$

$$Firm\_Risk_{it} = \gamma_0 + \gamma_1 Market\_Turbulence_{it} + \gamma_2 Advertising\_Intensity_{it} + \gamma_3 Market\_Size_{it} + \gamma_4 Market\_Growth_{it} + \gamma_5 Market\_Concentration_{it} + \gamma_6 Firm\_Size_{it} + \gamma_7 Sales\_Growth_{it} + \gamma_8 ROA_{it} + \gamma_9 Financial\_Leverage_{it} + \gamma_{10} Profitability_{it} + \gamma_{11} SGA\_Ratio_{it} + \gamma_{12} B2B_i + \gamma_{13} Product_i + \sum_{m=1}^{M} \rho_m Industry_m + \sum_{k=1}^{K} \tau_k Year_k + \mu_{it}$$

Here, subscript *i* represents the firm, and subscript *t* represents the day. Year dummies and industry dummies are used to account for factors that vary by year and by industry, respectively. We control for unobserved heterogeneity through the industry and year fixed effects. ε_{it} and μ_{it} are the error terms associated with firm value and firm risk, respectively. α, π, θ, γ, ρ, τ represent parameters.

Addressing Endogeneity

The firms do not make channel deletion or channel contraction decisions randomly but based on some strategic reasons. In our study context, first, the firm needs to decide on channel deletion strategies, and conditional on this decision, one can observe the firm performance. Hence, there is potential for endogeneity in our model (due to the self-selection) that may bias the coefficients of the firm performance function, and we need to account for such biases. We can alleviate the endogeneity concerns by implementing the selection model (Heckman 1979; Papies, Ebbes, and Van Heerde 2017). In this approach, we first model the choice of channel

deletion and channel contraction to estimate a correction factor, (i.e., inverse Mills ratio, IMR) which is then included in the second stage performance model (Papies et al. 2017; Wooldridge 2010). If the coefficient of IMR is significant, it indicates the need to correct for self-selection.

In our study, a firm has three choices: 1) not to conduct channel deletion/contraction (i.e. no deletion), 2) conduct channel contraction (i.e., partial deletion), and 3) conduct channel deletion (i.e., full deletion). In this situation, literature suggests the use of either multinomial logit or ordered probit model[18] in the first stage (Tucker 2010). We use a multinomial logit model for modeling the three choices as it does not need the assumption of ordered choices, and also channel deletion and channel contraction may not be correlated (Bourguignon et al. 2007; Dubin and McFadden 1984). Further, the multinomial logit provides a suitable econometric approach in estimating the probabilities that individual firm have undergone channel deletion or channel contraction.[19]

Let *D* denote the random variable taking on the *{1, 2, …, J}*, where J is a positive integer representing the firm's decision of deletion choice. *Z* denotes a set of explanatory variables that have a bearing on the deletion decision of the firm. We are interested in knowing how changes in *Z*, impacts the response probabilities *P(D=j|Z, j=1, 2, …, J)*. *P(D=1|Z)* can be determined if we know the probabilities for *j = 2, …, J* as all the probabilities sum to one (Wooldridge 2010). The response probabilities of multinomial logit model can be written as:

$$P(D = j|Z) = \frac{e^{Z\beta_j}}{1 + \sum_{h=1}^{J} e^{Z\beta_h}}, \qquad j = 2,3, \dots, J$$

and

[18] We estimated selection model using ordered probit also as a robustness check. Ordered probit model details are shown in the Appendix C. The effects of the main variables were substantively consistent, indicating that our model results are fairly robust to alternative specification of selection model.

[19] Multinomial logit model is considered as more robust and interpretable. In our case (three choices), IIA issue of multinomial logit may not be very relevant or particularly restrictive. Also, multinomial probit is typically considered as weakly identified.

$$P(D = 1|Z) = \frac{1}{1 + \sum_{h=1}^{J} e^{Z\beta_h}}$$

We use the predicted conditional probability of each choice φ_i given the conditional probability of all other choice $(1 - \varphi_i)$ to calculate the (individual) IMR for the channel deletion and channel contraction. Then, we use these IMR terms into the second stage model to get unbiased parameter estimates (Kai and Prabhala 2007).

We need at least one independent variable in the choice model that does not affect performance to satisfy the exclusion restrictions and allow identification (Puhani 2000). The channel deletion and contraction decisions may be a function of the macroeconomic conditions for the business involved. Firms may involve more in deletion strategies during periods of economic decline. Hence, to control for the endogeneity of channel deletion and contraction, we use the U.S. GDP growth rate and junk bond yield as the primary instruments. Tavassoli, Sorescu, and Chandy (2014) note that GDP growth rate reflects the economic situation, and negative GDP growth indicates recessionary environment. Similarly, higher junk bond yield reflects economic decline (Acharya, Amihud, and Bharath 2013). Both GDP growth rate and junk bond yield may influence firm's channel deletion or contraction decisions but may not directly affect an individual firm's performance, making it a good exclusion variable.

We compute the predicated probability of channel deletion and contraction using the multinomial logit choice model as follows:

$$\begin{aligned} Pr\ (Channel\_Deletion\_Contraction_{it} = 1) = {} & \beta_0 + \beta_1 GDP\_Growth_{it} + \beta_2 JunkBond\_Yield_{it} \\ & + \beta_3 Market\_Turbulence_{it} + \beta_4 Advertising\_Intensity_{it} + \beta_5 Market\_Size_{it} + \beta_6 Market\_Growth_{it} \\ & + \beta_7 Market\_Concentration_{it} + \beta_8 Firm\_Size_{it} + \beta_9 Sales\_Growth_{it} + \beta_{10} ROA_{it} \\ & + \beta_{11} Financial\_Leverage_{it} + \beta_{12} Profitability_{it} + \beta_{13} SGA\_Ratio_{it} + \beta_{14} B2B_i + \beta_{15} Product_i \\ & + \beta_{16} Industry\_Dummies + \beta_{17} Year\_Dummies + \eta_{it} \end{aligned}$$

Next, we calculate the IMR (Papies et al. 2017; Wooldridge 2010) and finally add the IMR to the performance model. In other words, we estimate our final models (firm value and

firm risk) by including the IMR as a regressor to obtain unbiased estimates. Full model including the IMR variable is presented in the Appendix D.

To determine the causal impact of channel deletion strategies, we need to identify counterfactuals. In our case, we know the firms that undertake channel deletion strategies and those who did not. We construct propensity score matched sample of firms in the same industry that did not involve in channel deletion strategies. Following Boyd, Kannan, and Slotegraaf (2019), our matching process employed a 1:1 nearest neighbor algorithm within each focal firm's industry to find one matched counterpart (Barber and Lyon 1996; Thoemmes and Kim 2011). We create a difference score for each matched observation and use the difference analysis model to test our moderating hypotheses. To control for the endogeneity of other independent variables, following prior research, we lag these independent variables by one time period (Morgan and Rego 2006). We estimate our performance equations using seemingly unrelated regression (SUR) model to alleviate any concern regarding the correlated error structure of two dependent variables (i.e., firm value and firm risk).

We also operationalized channel contraction as a continuous variable as the closure of 20 outlets may have a different effect than that of 200 outlets. Accordingly, we develop regression models for the firm value and firm risk using channel contraction intensity (i.e., percentage of outlets closed in relation to the total outlets):

$$Firm\_Value_{it} = \alpha_0 + \alpha_1 Channel\_Contraction_{it} + \alpha_2 Market\_Turbulence_{it} + \alpha_3 Advertising\_Intensity_{it} + \alpha_4 Channel\_Contraction_{it} * Market\_Turbulence_{it} + \alpha_5 Channel\_Contraction_{it} * Advertising\_Intensity_{it} + \alpha_6 Market\_Size_{it} + \alpha_7 Market\_Growth_{it} + \alpha_8 Market\_Concentration_{it} + \alpha_9 Firm\_Size_{it} + \alpha_{10} Sales\_Growth_{it} + \alpha_{11} ROA_{it} + \alpha_{12} Financial\_Leverage_{it} + \alpha_{13} Profitability_{it} + \alpha_{14} SGA\_Ratio_{it} + \alpha_{15} B2B_i + \alpha_{16} Product_i + \sum_{m=1}^{M} \pi_m Industry_m + \sum_{k=1}^{K} \theta_k Year_k + \varepsilon_{it}$$

$$Firm\_Risk_{it} = \gamma_0 + \gamma_1 Channel\_Contraction_{it} + \gamma_2 Market\_Turbulence_{it} + \gamma_3 Advertising\_Intensity_{it} + \gamma_4 Channel\_Contraction_{it} * Market\_Turbulence_{it} + \gamma_5 Channel\_Contraction_{it} * Advertising\_Intensity_{it} + \gamma_6 Market\_Size_{it} + \gamma_7 Market\_Growth_{it} + \gamma_8 Market\_Concentration_{it} + \gamma_9 Firm\_Size_{it} + \gamma_{10} Sales\_Growth_{it} + \gamma_{11} ROA_{it} + \gamma_{12} Financial\_Leverage_{it} + \gamma_{13} Profitability_{it} + \gamma_{14} SGA\_Ratio_{it} + \gamma_{15} B2B_i + \gamma_{16} Product_i + \sum_{m=1}^{M} \rho_m Industry_m + \sum_{k=1}^{K} \tau_k Year_k + \mu_{it}$$

Model Estimation

The observations in the final data set represent a cross-sectional time-series data. We need to address several issues while estimating a model from such a data set. Hence, we test the model regarding, heteroscedasticity, multicollinearity, and omitted variables. First, the White test as well as Breusch-Pagan test failed to reject the null hypothesis for both dependent variables ($p > .10$). This indicates that heteroscedasticity is not a concern in our data set. Second, the variance inflation factor for the models do not exceed a value of 5, equivalent to a tolerance level of .2 (O'brien 2007), indicating that multicollinearity is not an issue. Finally, we perform the Ramsey regression specification error test (Ramsey 1969) to determine the omitted variable concern. The test statistic is statistically significant, suggesting problems with omitted variables. We also perform the Durbin Wu Hausman test to determine the validity of our instrument. The test statistic was statistically nonsignificant ($p > .10$), suggesting that the instrument is valid.

Results

Effect of Channel Deletion strategies on Firm Value and Firm Risk

[Insert Figure 2 and Table 6 about here]

Analysis of the daily abnormal returns for 15 days around the event reveals significant stock market reactions, as depicted in Figure 2. Consistent with previous event studies, we selected the event window with the most significant t-statistic (Boyd et al. 2010; Swaminathan and Moorman 2009; Tellis and Johnson 2007). As presented in Table 6, with respect to the most significant event window [0, 0], the announcement of channel deletion and channel contraction on average indicates positive abnormal stock returns of .64 ($p < .01$). While our results show that the overall effects of channel deletion and contraction on firm value are positive and significant,

there is substantial variation in market response with around 40% of firm events showing negative abnormal stock returns.

Although, channel deletion has a positive and significant association with abnormal stock returns (α = 1.21, p < .01), it also increases idiosyncratic risk (γ = .24, p < .05). On the other hand, channel contraction increases abnormal stock return (α = .49, p < .01) but not the idiosyncratic risk (γ = .03, n.s.). Our results lend support to H_{1a} and H_{1b}, i.e., channel deletion is significantly associated with both firm value and firm risk. We also find support for H_{2a}, indicating that firm value is associated with channel contraction but to a lower extent than that of channel deletion. However, we do not find support for H_{2b}, indicating no association of idiosyncratic risk with channel contraction. This may explain the relatively more rampant instances of channel contraction. Managers may be concerned about their own employment prospect in case of increased risk due to channel deletion. These results also indicate that channel deletion and channel contraction need to be treated differently.

Moderating Effects

[Insert Tables 7 and 8 about here]

The dependent variable for testing moderating effects is the difference in firm performance (e.g., firm value) between the focal firm and its matched counterpart. Accordingly, we estimate the influence of contextual factors, and the results are shown in Table 7 and Table 8. Concerning market turbulence, we find that the firm value associated with the channel deletion is less positive when the firm operates in more turbulent market (α = -2.77, p < .05), thereby supporting H_{3a}. However, we do not find support for H_{3b}, which states that the channel contraction is less valuable for firms operating in a more turbulent market (α = -.01, n.s.). This indicates that the channel deletion is less valuable for firms operating in a more turbulent market,

whereas no such attenuating effect was found for channel contraction. Regarding firm risk, we find support for H_{4a}, which states that the channel deletion enhances the risk for firms operating in a more turbulent market ($\gamma = .83$, $p < .05$). We do not find support for H_{4b}, i.e., no moderating effect of market turbulence on the association of channel contraction with firm risk. Hypothesis H_5 is not supported, i.e., advertising intensity does not moderate the relationship of channel deletion or contraction with firm value. With regard to the moderating role of advertising intensity on firm risk, the results lend support to H_{6a} ($\alpha = -1.07$, $p < .01$) as well as H_{6b} ($\gamma = -.14$, $p < .1$). Thus, advertising intensity reduces the risks associated with both channel deletion and channel contraction. The coefficients of correction terms (IMR) are significant, highlighting the need to correct for the self-selection. In Table 9, we present the result of the selection model.

[Insert Table 9 about here]

Our results suggest that channel contraction significantly enhances abnormal stock return without any risk. To check the non-riskiness of channel contraction, we used the alternate operationalization of channel contraction i.e., contraction intensity. Model free evidence suggests an interesting pattern that for up to 11% of channel contraction intensity, the idiosyncratic risk is quite low. However, idiosyncratic risk increases once contraction intensity goes beyond 11% (Figure 3). Subsequently, we segregated our channel contraction sample into two groups, one with more than 11% and the other with up to a 11% contraction intensity. In this case, we corrected for endogeneity by including a generalized residual as control function in the performance model (Papies et al. 2017; Wooldridge 2010). As displayed in Table 10, we find that the firms with more than a 11% channel contraction intensity exhibit significant association with the idiosyncratic risk ($\gamma = 1.01$, $p < .05$). Here also, advertising intensity reduces the risk

significantly ($\gamma = -.39$, $p < .01$). We estimated our model using different contraction intensities (e.g., 12%, 15%), and found consistent results.

[Insert Figure 3 and Table 10 about here]

Robustness Analyses

We ensured the robustness of our results by performing several additional analyses.

Alternative event windows. To test whether the results are robust across alternative event windows, we re-estimated the models for another event window that shows significant abnormal returns to channel deletions and contractions, CAR (–1, 0) = .51 ($p < .05$) with t-value 2.21. As shown in the Appendix Table W1, we find that majority of the results are stable in terms of direction and significance.

Alternative selection model. We estimated our model using ordered probit model in the first stage. Table W2 in the Appendix shows that the effects of the main variables are substantively consistent, indicating that our model results are fairly robust to alternative specification of selection model.

Alternative model to estimate abnormal return. We estimated abnormal returns using the market model. Our results are robust to this alternative specification as exhibited in the Appendix Table W3.

Anticipated/ Unanticipated events. We assume that investors do not know as much about the environment surrounding the firm decision as the decision-maker. As a robustness measure, we account for the scenarios where investors may have anticipation about some of the deletion decisions. As suggested in the literature, investors may consider some observable firm characteristic (e.g., profitability) as a cue for the anticipation (Thompson 1995). Accordingly, we segregated the events pertaining to the firm having negative profitability. Following Eckbo,

Maksimovic, and Williams (1990) and Thompson (1995), we revised the abnormal stock return for events with the possibility of prior anticipation (by investors) as:

$$ASR_{revised} = ASR * (1 - P)$$

where, *P* is the probability that deletion may occur. Since, in our case, there are three possibilities (i.e., full deletion, partial deletion, and no deletion), P would be 0.33. We re-estimated our model after segregating anticipated and unanticipated events. The effects of the main variables are substantively consistent as shown in the Appendix Table W4.

Alternative firm risk. To test the robustness of our results, we used total risk in place of idiosyncratic risk. As presented in Appendix Table W5, the results are almost identical to those we obtained using idiosyncratic risk. We also considered systematic risk and found non-significant association (0.02, n.s.) with channel deletion strategies.

One may also perceive that firms delete channel due to financial distress; hence, we assess the effect of channel deletion strategies on the default risk. We collected data from the S&P credit rating database and use the methodology adopted by Anderson and Mansi (2009), and Rego, Billet, and Morgan (2009). We assign a value of 1 to D-rated bonds and 22 to AAA-rated bonds (Anderson and Mansi 2009). We find non-significant association (12.8, n.s.) between channel deletion strategies and default risk. It means that channel deletion strategies are not limited to only poorly performing firms or firms in the stagnant or decaying industries.

Do channel deletion or contraction have long-term effects? We estimated the long-term effect of channel deletion and contraction using buy-and-hold abnormal return (Sharma, Saboo, and Kumar 2018; Sorescu, Chandy, and Prabhu 2007).

$$BHAR_{it} = \prod_{t=1}^{T}(1 + R_{it}) - \prod_{t=1}^{T}(1 + R_{mt})$$

where R_{it} is the rate of return of ith firm on day t, and R_{mt} is the rate of return on a market index in the same time period. We consider one-year period for our calculation.

We also consider longer time window ranging from -300 days to +300 days to calculate the idiosyncratic risk (Thomaz and Swaminathan 2015). The results indicate no significant effect on long-term abnormal returns (-0.071, n.s.) as well as idiosyncratic risk (0.028, n.s.). This may be due to at least two reasons. First, given that channel deletion or contraction are specific events, other intervening firm actions can obscure the long-term effect. Second, if the stock market is efficient, investor expectations are captured in the period surrounding the event.

Discussion

Investors are not only interested in the stock return, but also concerned with the risk. In our study, we develop a novel conceptual framework to (1) establish the link of the channel deletion and contraction with firm value and firm risk, (2) highlight investors' screening cues that influence the impact of channel deletion or contraction on return and risk, and (3) offer managerial levers to alleviate the risks associated with the deletion strategies. Our study not only contributes to the existing channel literature, but also to managerial practices.

Implications for Theory

This study contributes to the literature in several ways. We broaden the theoretical framework of channel related strategy by conceptualizing the effect of channel deletion and contraction on firm value and firm risk. Our findings establish first linkage between channel deletion strategies and market performance metrics. Specifically, our work supports the argument that channel deletion and contraction may lead to substantial cost savings that may help in enhancing services through the retained channel entities, thus increasing firm value. Literature also suggests that investors value marketing efficiency in supply-side over demand-

side gains (Hsu, Fournier, and Srinivasan 2016; Srinivasan et al. 2009). Another probable reason for enhanced firm value is the cooperation from retained channel entities, as posited by the social exchange theory. However, channel deletion or contraction may increase the firm (stock) risk. Our research highlights a trade-off regarding risk and returns that managers should examine.

We also contribute to the literature through the insights provided by the tests of the moderating hypotheses. We draw on information economics theory to illustrate the financial market response to channel deletion and contraction, which is novel to channel management literature. We show that the investors' reactions depend to a great extent on contextual factors. Our study extends marketing theory by offering strategies for firms to address investors' uncertainty following a major channel strategy. Specifically, we demonstrate that advertising intensity sends a powerful credibility signal to investors that the firm is competitive and that the deletion strategy is merely a restructuring activity.

This study can be used to understand the impact of other deletion decisions (e.g., dropping a program in the university). In recent years, many universities are grappling with the question of whether dropping a particular MS program would be beneficial and what could be the risks associated with such an activity. Our conceptualization may aid in understanding that advertising intensity helps in lowering the risk associated with such action. Further, the return garnered through deletion strategy may be lower in a more turbulent market (e.g., when there is higher uncertainty in the number of applications).

Implications for Practice

Our findings have important implications for managerial practice. The capital market pays close attention to channel deletion and contraction, and managers need to be cognizant of the risk and return inherent in such channel strategies. Our study's results demonstrate that firm

value and firm risk react differently to the channel deletion and channel contractions. Hence, we conclude that both researchers and managers must distinguish the channel deletion and channel contraction and attend to their differing performance implications.

Firm value associated with channel deletion is greater than that of firm value associated with channel contraction. However, channel deletion is significantly associated with idiosyncratic risk, (which accounts for 80% of firm total risk), suggesting that channel deletion is a high-risk, high-return strategy. Hence, managers who are open to taking risks may decide for the channel deletion strategies. Further, the stock market penalizes the firm for channel deletion in a market with greater turbulence. Channel contraction is preferable in such a situation. Managers must be cognizant of such issues while involving in the channel deletion strategies. If managers are risk averse, they may be better off with channel contraction. Channel contraction seems a relatively better strategy, but only if channel contraction intensity is within 11%. Finally, to reduce the risks associated with channel deletion or contraction, managers should focus on enhancing the advertising intensity.

In the post hoc analysis, we find that B2B firms are associated with higher returns (0.571) than the B2C firms (0.215) in case of channel deletion. However, B2B firms are also associated with a higher risk (0.343) than B2C firms (0.226). For channel contraction instances, B2B firms have both higher return (0.428) and lower risk (0.025) than B2C firms that have the return of 0.209 and risk of 0.033. The effect of channel deletion and channel contraction also varies across products and services focused firms. We find that in the case of channel deletion, product-focused firms are associated with both positive return (0.011) and risk (0.032), while service-focused firms are associated with negative return (-0.163) and risk (-0.096). In the case of channel contraction, both product and service-focused firms are associated with positive return

and risk; however, product-focused firms have a higher return (0.514) than that of service focused firm (0.401). Similarly, risks associated with product-focused firms (0.627) are higher than that of service-focused firms (0.258). Taken together, our results suggest that managers of the B2B firms, as well as product-focused firms, may anticipate a higher return. However, they should also be prepared for the higher risk.

In line with the study of Coviello et al. (2002), we discern the effects of deletion strategies on return and risk across B2B/B2C firms as well as product-focused/service-focused firms utilizing a 2 X 2 table. In other words, we provide a comparison of risk and return across business goods, business services, consumer goods, and consumer services firms.

Return	Product-focused	Service-focused
B2B	0.188	0.077
B2C	0.358	-0.254

Risk	Product-focused	Service-focused
B2B	0.020	- 0.061
B2C	0.076	- 0.121

We find that product-focused B2C firms are associated with highest returns (0.358); however, these firms are also associated with the highest risks. Overall, our result suggests that services-focused B2B firms are the biggest beneficiary of deletion strategies as they are not only associated with positive returns (0.077) but also lower risks (- 0.061). It seems that business customers of service-focused firm do not bother much about shifting to the alternate channel of the focal firm in case of the deletion or contraction of a channel. One possible reason may be that the focal firm may be more cautious about its business customers and putting the requisite efforts to shift them to the alternate channel.

It is also possible that investors' reactions may depend on the type of channel that is being deleted or contracted. In the post hoc analysis, we find that the deletion of company outlets is associated with an increased return (0.277) and risk (0.239). However, deletion of retailers is

associated with the negative return (-0.488) and risk (-0.235). In the case of contraction of company outlets, both return (0.347) and risk (0.155) increases. However, for retailers, contraction leads to a negative return (-0.064) but a positive risk (0.054). Overall, it seems that investors better perceive deletion or contraction of company outlets.

We also carried post hoc analysis to calculate return and risk associated with channel deletion strategies across industries. In Figure 4 and Figure 5, we present a few representative industries based on the return-risk associated with channel deletion and channel contraction, respectively. In general, Automotive Dealer and Service Station, as well as Electronic and Electric Equipment firms, benefitted most from channel deletion, whereas firms in the industry of Food Stores, as well as Furniture and Home Furnishing, suffered due to channel deletion. In the case of Miscellaneous Retail (e.g., Dick's Sporting Goods), in addition to firm value, firm risk also enhances. Similarly, for Paper and Allied products, both firm risk and firm value decreases. In case of channel contraction, Automotive Dealer and Service Station, and General Merchandise Stores (e.g., Target) have a positive return and negative risk, while Leather Products, and Furniture and Home Furnishing have negative returns and positive risks. In general, the return-risk associated with channel deletion strategies differs across industries, and managers should take cognizance of such issues. Overall, our study provides executives important insights in terms of risks and returns associated with channel deletion and contraction, thus making a more informed decision about these issues.

[Insert Figures 4 and 5 about here]

Limitations and Future Research

This study and the interpretation of the results may be considered in light of various general and specific limitations, some of which suggest possible avenues for further research. First, we use abnormal stock returns to capture firm value. Although the abnormal stock return is

a generally accepted performance measure, further research may employ other outcome metrics such as Tobin's Q or Jensen alpha. Second, our research design resulted in examining firms that were traded on U.S. based stock exchanges (i.e., publicly traded companies in the United States). Our findings are not necessarily generalizable to privately held firms; however, they may be generalizable across industries. Future research may consider an appropriate measure to study the deletion strategies for privately owned firms. Third, it would be useful to conduct in-depth field studies to gain richer insights into the link between channel deletion strategies and risk-return performance. Fourth, it is also worthwhile to study the conditions under which the stock market reacts negatively or positively to the announcement of channel deletion or contraction, i.e., why some firms show positive returns while others show negative returns. Future studies may survey managers to get data on some additional control variables such as extent of coordination, channel intensity, channel power, and channel conflict. Fifth, we consider different types of channels based on the channel format. Future studies may consider channels from a technology perspective (e.g., self-service kiosk, vending machine, ATM, etc.) or from an ownership perspective (e.g., Walmart, Target, Gas stations, etc.). Other study may also investigate the impact of channel deletion strategies on the competitors of the focal firm.

In our study, we faced the modeling challenge in controlling for the unobserved firm heterogeneity because most of the firms were involved in the deletion of only one channel. In future studies, firm heterogeneity may be taken care of in the case of multiple instances of channel deletion by the focal firm. Our research focuses on the announcement of channel deletion strategies. It is possible that a firm may announce channel deletion but later on retract or undertake channel contraction, or even the focal firm may start using its sales channel as the service channel. For example, Tesla announced the deletion of its store but later continued using

some of its stores for service purposes (i.e., another channel function). Due to the event study nature in our research, investors' reaction gets captured surrounding the announcement of the event. Hence, future studies may benefit by gathering actual instances of deletion or contraction. With such data, studies can link channel deletion strategies with firm outcomes such as revenue and/or operating income.

Studies may also be conducted considering channel addition and channel deletion together and then ascertain conditions under which either channel addition or deletion is suitable based on the different market responses. By doing so, there would be a unified framework of channel addition and deletion that helps in understanding the qualitative difference between reward and punishment by the stock market. Future studies may also consider different countries in their data frame to see whether results are generalizable across countries. In a similar direction, future research may also examine the multinational firms that might have used channel contraction strategy in one country but channel deletion in another country. In conclusion, we hope that our work will spark scholarly interest for future research in this important area of channel strategy.

Table 1. Examples of Channel deletion and Channel contraction

Firm	Type	Description	Announced
Bebe	Channel Deletion	In the midst of trying to reorganize itself, Bebe announced today that it will shutter all of its brick-and-mortar locations by the end of next month. The company statement said that it would transition to an online-only model.	April 21, 2017
Sony	Channel Deletion	Sony announced plans to close its online store. The company statement said that the Sony Store online will stop taking orders from August 28, 2015. Customers were redirected to purchase from Sony's authorized retailers.	August 3, 2015
Hamilton Beach	Channel Deletion	"We have evaluated strategic alternatives to maximize the value of the Kitchen Collection format and reached the difficult but necessary decision that it is in the best interests of the company and all of its stakeholders to wind down this format by the end of 2019," said Gregory Trepp, president and CEO of Hamilton Beach Brands Holding Company.	October 15, 2019
e.l.f. Beauty	Channel Deletion	e.l.f. Beauty said that it would close all its company outlets as it looks to focus on expanding its brand in national retailer and digital channels.	February 28, 2019
Guess	Channel Contraction	With 60 stores on the chopping block this year, Guess expects store closures to boost its operating income by $16 million annually. CEO Victor Herraro stated that closure would improve profitability.	March 15, 2017
Tailored Brands	Channel Contraction	"While we're striving for improved performance in 2017, given the ongoing choppiness and overall declines we're seeing in the business, we believe it is appropriate to plan for trimming the stores to continue." — Douglas Ewert, chief executive officer (on the closure of 11 outlets)	March 8, 2017
Macy's	Channel Contraction	"We looked at every pyramid of the company. We looked at benchmarking. We have been planning this very carefully. This is not something we did quickly." — Jeff Gennette, Macy's president and incoming chief executive officer (on the closure of 68 outlets)	January 4, 2017

Table 2. Distribution of firms across Industries

Industry	%
Apparel and other textile products	5.1
Rubber and miscellaneous plastics products	2.3
Leather and leather products	3.9
Transportation equipment	1.8
Instruments and related products	1.4
Building materials & garden supplies	3.3
General merchandise stores	9.6
Food stores	4.3
Automotive dealers & service stations	3.1
Apparel and accessory stores	19.2
Furniture and home furnishings stores	5.7
Eating and drinking places	2.4
Miscellaneous retail	11.3
Depository institutions	15.1
Personal services	2.1

Table 3. Measurement Details

Variable	Operationalization	Data Source	Prior Literature
Channel deletion	Activity involving the decision to discontinue a channel from the firm's channel mix	LexisNexis, Factiva, PR Newswires, BusinessWire	No Prior Research
Channel contraction	Activity involving the decision to decrease the number of channel entities within an existing channel	LexisNexis, Factiva, PR Newswires, BusinessWire	No prior Research
Firm value (abnormal stock return)	Cumulative abnormal return over an event window	CRSP	Boyd et al. (2019); Homburg et al. (2014)
Idiosyncratic risk	Difference between Standard deviation of residuals of the Carhart four-factor model after and before the event	CRSP	Thomaz and Swaminathan (2015)
Market turbulence	The standard deviation of sales growth within the industry (four-digit SIC code) over three years divided by the mean value of total revenue	COMPUSTAT	Homburg et al. (2014)
Advertising intensity	Ratio of the firm's reported advertising expenditures to sales	COMPUSTAT	Gruca and Rego (2005); Malshe and Agarwal (2015)
Market size	Total sales volume within the SIC code (four digits)	COMPUSTAT	Homburg et al. (2014)
Market growth	Annual percentage growth in the industry sales revenue (using four-digit SIC codes)	COMPUSTAT	Dotzel and Shankar (2019); Panagopoulos et al. (2018)
Market concentration	The Herfindahl–Hirschman index (HHI) in each (four-digit SIC code) industry	COMPUSTAT	Frennea et al. (2019)

Firm size	Log of sales revenue	COMPUSTAT	Dotzel and Shankar (2019)
Sales growth	Annual percentage growth in sales revenue	COMPUSTAT	Homburg et al. (2014)
ROA	Earnings before extraordinary items in relation to total assets	COMPUSTAT	Rego, Billet, and Morgan (2009)
Financial leverage	Firm's ratio of total liabilities to total assets	COMPUSTAT	Panagopoulos et al. (2018)
Profitability	Ratio of earnings before interest, taxes, depreciation and amortization to sales	COMPUSTAT	Frennea et al. (2019)
SGA Ratio	Ratio of firm's sellling general administrative expenses to sales	COMPUSTAT	Bhattacharya et al. (2019)
B2B versus B2C	A dummy variable that classifies industries as B2B (1) versus B2C (0)	COMPUSTAT	Groening et al. (2016); Frennea et al. (2019)
Products versus services	A dummy variable that classifies industries as products (1) versus services (0)	COMPUSTAT	Groening et al. (2016); Frennea et al. (2019)
Event year	A dummy variable for 2015–2019	LexisNexis, Factiva, Newswires	Homburg et al. (2014)
Industry dummies	A dummy variable according to the four-digit SIC code	COMPUSTAT	Homburg et al. (2014)
GDP Growth	U.S. GDP growth rate	Trading Economics	Tavassoli et al. (2014)
Junk Bond Yield	Yield on Junk Bonds	Federal Reserve Economic Data	Acharya et al. (2013)

Table 4. Summary Statistics

Variable	Mean	SD	Min	Max
Abnormal Stock Return	0.64	4.18	-14.38	20.04
Idiosyncratic Risk	0.11	1.46	-9.31	8.26
Market Turbulence	6.19	6.07	0.29	38.00
Advertising Intensity (%)	2.83	1.84	0.04	9.89
Market Size (ln)	11.55	1.97	8.12	14.47
Market Growth	0.01	0.10	-0.67	0.27
Market Concentration (in thousands)	3.08	2.36	0.12	10.00
Firm Size (ln)	8.57	1.81	2.98	13.15
Sales Growth	0.03	0.12	-0.35	0.83
ROA	0.02	0.11	-0.52	0.37
Financial Leverage	0.72	0.31	0.18	2.92
Profitability	0.19	0.17	-0.10	0.58
SGA Ratio	0.32	0.11	0.06	0.61
GDP Growth (%)	4.43	0.93	2.69	5.44
Junk Bond Yield (%)	6.27	0.54	5.62	9.05

Table 5. Correlation Matrix for the Model Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Abnormal Stock Return	1.00												
2. Idiosyncratic Risk	-0.12	1.00											
3. Advertising Intensity	0.01	-0.17**	1.00										
4. Market Turbulence	-0.05	-0.08	0.01	1.00									
5. Market Size	-0.03	0.04	-0.32**	0.18**	1.00								
6. Market Growth	0.12**	0.03	-0.15**	0.05	0.28**	1.00							
7. Market Concentration	0.08	0.01	0.27**	-0.16**	-0.30**	-0.03	1.00						
8. Firm Size	-0.02	-0.08	-0.29**	0.06	0.32**	-0.02	-0.07	1.00					
9. Sales Growth	0.04	-0.10	-0.17**	0.03	0.30**	0.21**	-0.23**	0.09	1.00				
10. ROA	-0.02	-0.08	-0.05	0.04	0.02	-0.01	-0.06	0.18**	0.23**	1.00			
11. Financial Leverage	-0.07	-0.02	-0.11	-0.01	0.25**	-0.12**	-0.22**	0.16**	0.05	-0.04	1.00		
12. Profitability	-0.09	-0.05	-0.27**	0.18**	0.32**	0.21**	-0.23**	0.08	0.29**	0.21**	0.31**	1.00	
13. SGA Ratio	0.01	0.01	0.22**	0.05	0.03	0.14**	-0.09	-0.25**	0.00	-0.27**	-0.06	0.21**	1.00

Note: ** ($p < 0.05$)

Table 6. Cumulative Abnormal Returns across various Event Window

Event Window	Mean (All Data)	t-Value	Mean (Channel Deletion)	t-Value	Mean (Channel Contraction)	t-Value
-7 to -1 days	0.18	0.58	0.36	.67	0.17	0.35
Event day [0, 0]	0.64***	2.72	1.21***	2.64	0.49***	2.83
+1 to +7 days	0.57*	1.76	0.95	1.27	0.48*	1.81
-3 to +3 days	0.49	1.43	0.54	1.02	0.33	1.56
-1 to +1 days	0.52**	2.02	0.63**	2.07	0.50*	1.87
-1 to 0 days	0.51**	2.21	0.76**	2.29	0.48**	1.99
0 to +1 days	0.53*	1.74	0.59	1.53	0.37*	1.78

Note: *** ($p < 0.01$), ** ($p < 0.05$), * ($p < 0.10$)

Table 7. Moderating Effects on the impact of Channel Deletion on Firm Value and Firm Risk

Independent Variables	Abnormal Stock Return		Idiosyncratic Risk	
	Coefficient	SE	Coefficient	SE
Market Turbulence	-2.77**	1.34	0.83**	0.35
Advertising Intensity	0.26	1.74	-1.07***	0.23
Market Size	-31.21	22.25	8.33***	2.92
Market Growth	201.18***	65.27	-28.26***	8.57
Market Concentration	-30.07***	9.91	0.92	1.30
Firm Size	8.39**	3.85	-1.25**	0.51
Sales Growth	78.47**	32.27	-11.17***	4.24
ROA	-43.41	38.43	13.21	5.04
Financial Leverage	10.60	9.03	0.33	1.19
Profitability	-245.71**	107.50	18.83	14.11
SGA Ratio	-43.37	46.09	26.35***	6.05
B2B	-28.82	34.99	14.78***	4.59
Product	-20.93	18.39	7.07***	2.41
IMR	-12.49**	6.17	1.52**	0.76

Note: *** (p< 0.01), ** (p< 0.05), * (p< 0.10)

Table 8. Moderating Effect on the impact of Channel Contraction on Firm Value and Firm Risk

Independent Variables	Abnormal Stock Return		Idiosyncratic Risk	
	Coefficient	SE	Coefficient	SE
Market Turbulence	-0.01	0.03	0.00	0.01
Advertising Intensity	-0.15	0.37	-0.14*	0.07
Market Size	-13.29*	7.54	2.61*	1.42
Market Growth	13.96**	6.29	-0.06	1.43
Market Concentration	3.89**	1.64	0.11	0.37
Firm Size	0.32	0.38	-0.14*	0.09
Sales Growth	0.31	5.12	-1.68**	0.87
ROA	-0.34	6.25	-1.21	1.42
Financial Leverage	-0.99	1.95	-0.47	0.44
Profitability	8.98	11.60	0.90	2.64
SGA Ratio	13.39*	7.21	0.43	1.64
B2B	-33.77*	18.49	5.63	4.21
Product	-23.64*	11.77	3.42	2.68
IMR	-0.98**	0.47	0.00	0.17

Table 9. Estimation Results of Selection Model

	Channel Deletion		Channel Contraction	
	Coefficient	SE	Coefficient	SE
GDP Growth	-0.48***	0.19	-0.43***	0.14
Junk Bond Yield	0.64**	0.31	0.91***	0.24
Market Turbulence	0.00	0.01	0.00	0.01
Advertising Intensity	-0.04	0.07	-0.05	0.05
Market Size	-0.31*	0.16	-0.10	0.11
Market Growth	-0.18	2.03	-2.25	1.44
Market Concentration	0.06	0.09	0.11	0.07
Firm Size	0.42***	0.14	0.46***	0.09
Sales Growth	-1.18	1.41	-2.90***	1.10
ROA	-6.00***	2.24	-6.59***	1.87
Financial Leverage	-0.22	0.66	-0.33	0.49
Profitability	-1.64	2.54	3.68**	1.66
SGA Ratio	2.99*	1.71	3.54**	1.51
B2B	0.65	1.07	1.46**	0.66
Product	0.85	0.93	1.63**	0.67

Table 10. Estimation Results of Firm Risk with Channel Contraction Intensity

Independent Variables	Idiosyncratic Risk	
	Coefficient	SE
Channel Contraction	1.01**	0.44
Market Turbulence	0.01	0.01
Advertising Intensity	-0.09	0.08
Channel Contraction* Market Turbulence	0.01	0.01
Channel Contraction* Advertising Intensity	-0.39***	0.14
Market Size	2.75*	1.59
Market Growth	-0.11	1.40
Market Concentration	0.05	0.38
Firm Size	-0.11*	0.06
Sales Growth	-1.31	1.17
ROA	-1.91	1.42
Financial Leverage	-0.45	0.44
Profitability	1.87	2.61
SGA Ratio	0.93	1.62
B2B	6.05	4.14
Product	3.36	2.67
Endogeneity Correction	-0.01	0.16

Figure 1. Conceptual Framework

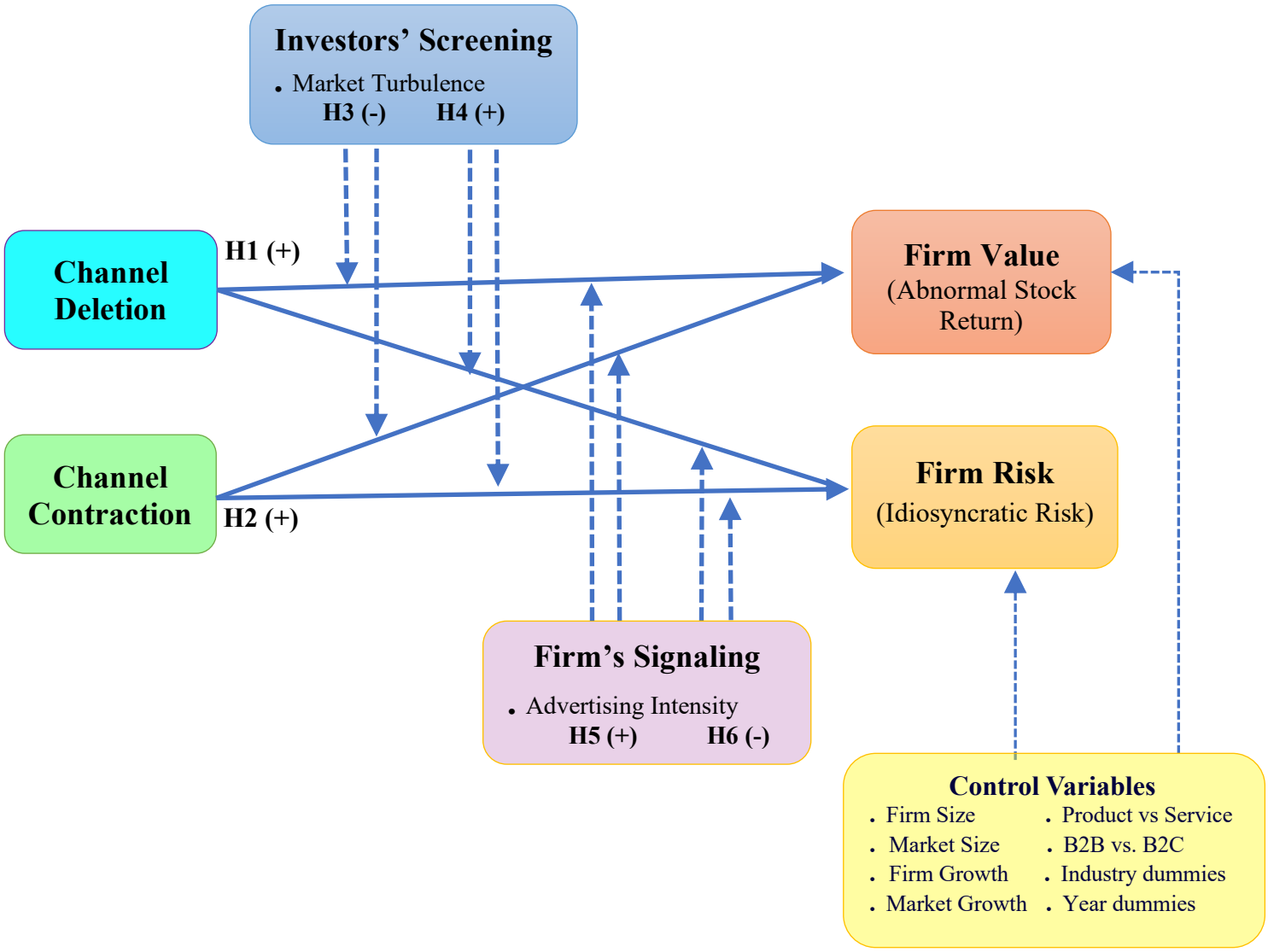
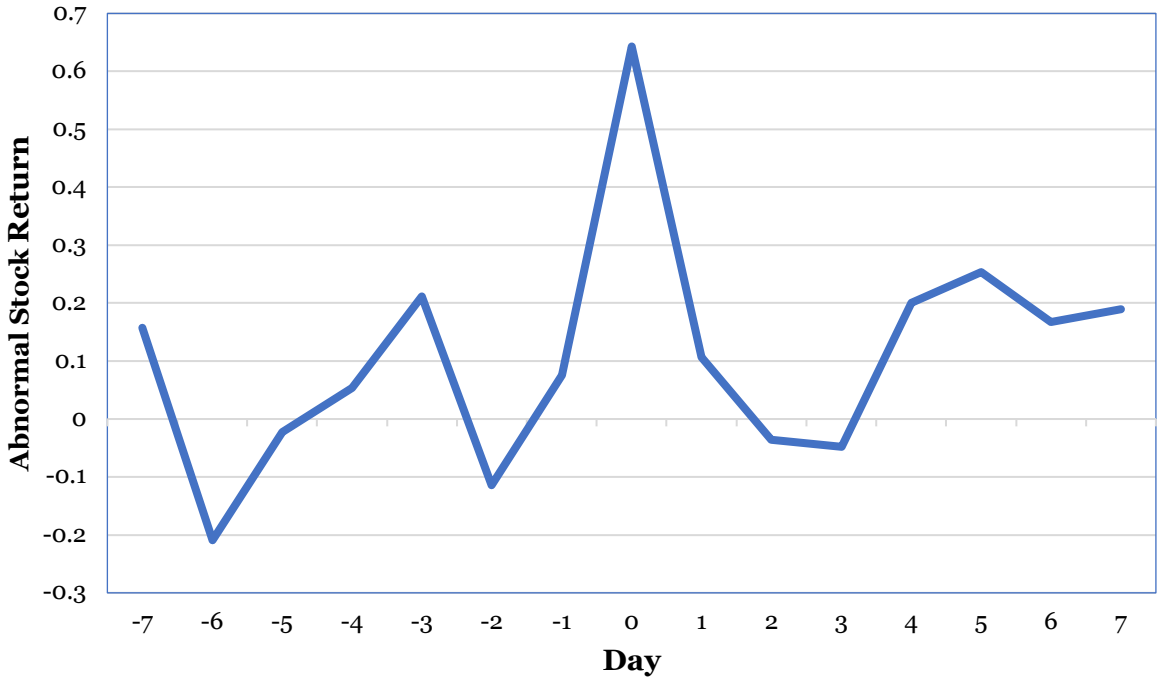


Figure 2: Abnormal Stock Returns Before and After a Channel Deletion/ Contraction announcement



Notes: This figure presents the daily firm abnormal returns before and after the channel deletion / contraction announcements. Day 0 corresponds to the event day.

Figure 3: Channel Contraction Intensity and Firm Risk

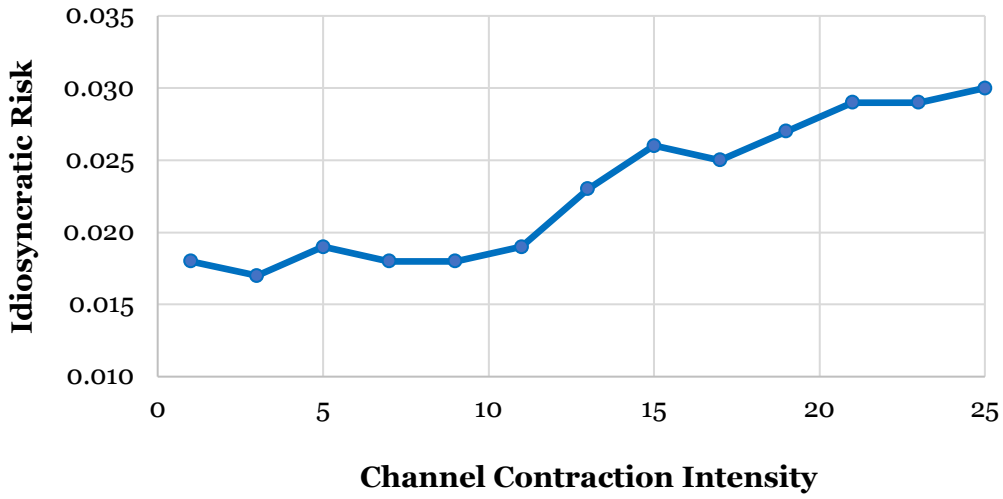


Figure 4: Channel Deletion associated Return-Risk across industries

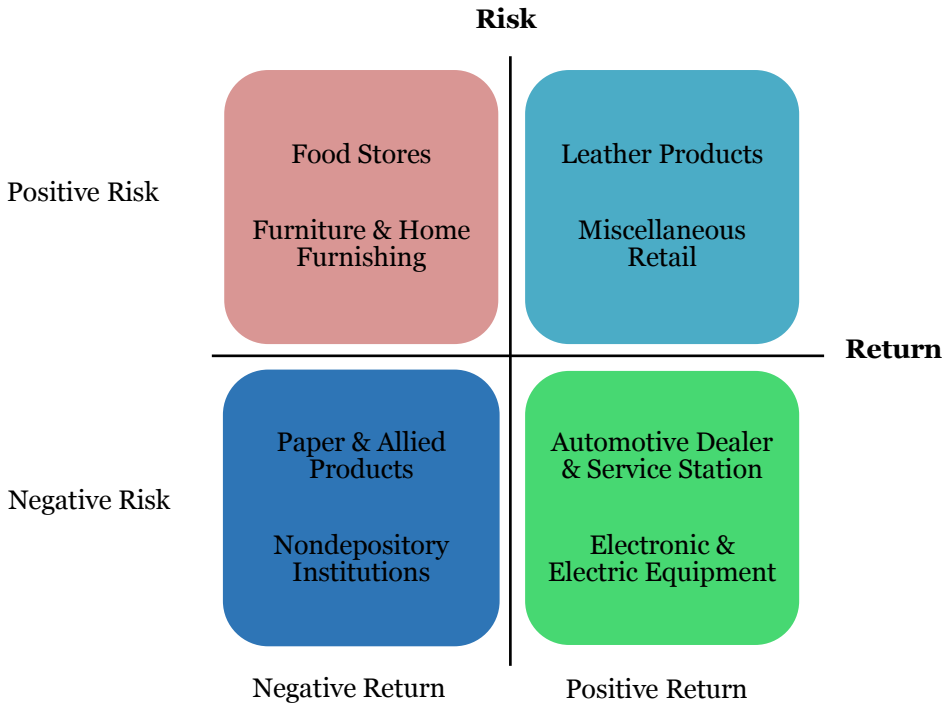
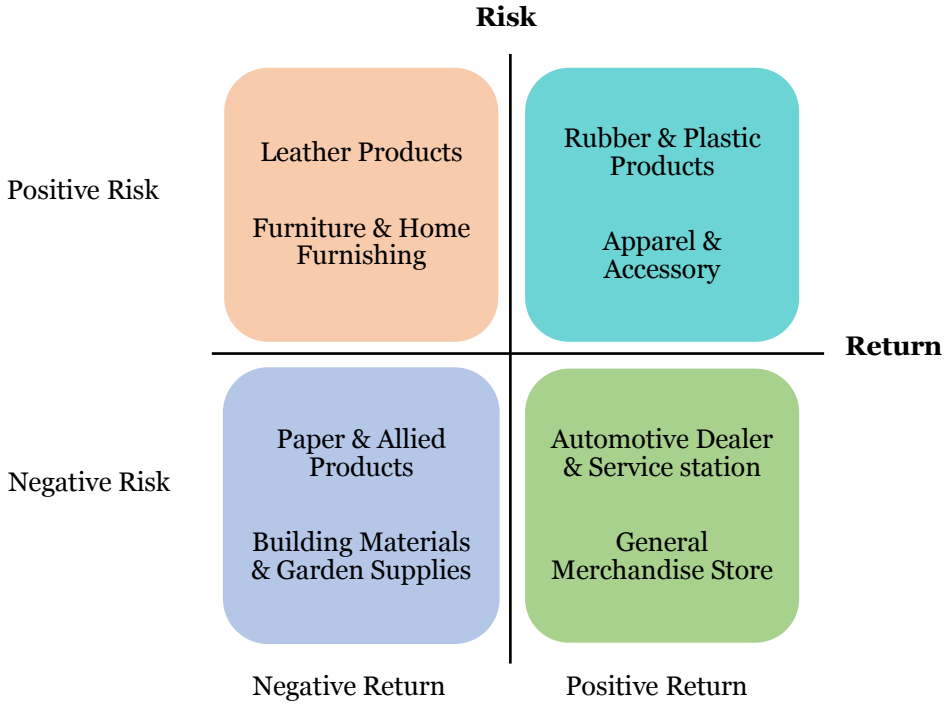


Figure 5: Channel Contraction associated Return-Risk across industries



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Appendices

The Effect of Channel Deletion and Channel Contraction on Firm Value and Firm Risk

A. Triangulation Approach

Managerial Interactions. We interacted with managers of U.S. firms in the months of May and June in 2019 from various industries, including automotive, leather products, rubber and plastic products, general merchandise stores, furniture and home furnishing stores. While we attempted to reach out to 50 managers, we were able to get responses from 34 managers (contacts generated through the CMO Roundtable that we organize) in the marketing and sales department to understand their perspectives on channel deletion and channel contraction. We had face-to-face interactions with 19 managers and telephonic conversations with 15 managers. Each interaction took, on the average, about 40 minutes. We encouraged these managers to share their views on issues they deemed relevant to the strategies of channel deletion and contraction. Talking to managers, it is clear that firms are involved in the channel deletion strategies for various reasons, including cost savings, reduced channel cannibalization, and enhanced cooperation from the retained channel entities. However, when probed further for any negative consequences, most of the responses were, "Hope Not" as they were not expecting any obvious risks associated with channel deletion or contraction. However, they raised the issue of how it may affect the firm's overall profitability/value given the possibility for loss of sales/customers.

B. Control Variables

In line with the extant literature in the marketing strategy area, we consider market size, market growth, and market concentration as industry-level control variables. Market size is considered as a significant determinant of firm value (Dotzel and Shankar 2019; Katila and

Shane 2005). We measure market size as the total sales volume within the firm's four-digit SIC code (Homburg, Vollmayr, and Hahn 2014; Karuna 2007). Market growth is the annual percentage growth in the industry sales revenue at the four-digit SIC code level (Panagopoulos, Mullins, and Avramidis 2018). Market growth is considered to be related with the firm value as well as firm risk (Dotzel and Shankar 2019; Gruca and Rego 2005). We measure market concentration using the Herfindahl–Hirschman index (HHI), which is the sum of the squared market shares of the firms in the industry at the four-digit SIC code level (Anderson, Fornell, and Mazvancheryl 2004; Rao, Agarwal, and Dahlhoff 2004). Greater HHI scores indicate a higher market concentration. The HHI is the most widely used market structure indicator and has been found to influence firm performance (Montgomery and Wernerfelt 1991; Rao et al. 2004).

For firm-related control variables, we consider several variables as suggested in the literature. As large firms tend to exhibit greater return stability, we controlled for firm size, measured as the logarithm of firm's sales (Dotzel and Shankar 2019; Groening, Mittal, and "Anthea" Zhang 2016; Woodroof et al. 2019). Firm size has been considered to be related to firm value as well as firm risk (Dotzel and Shankar 2019; Ferreira and Laux 2007). We compute the firm's sales growth as the annual percentage growth in sales revenue between the year of the event and the year before the event (Tuli, Bharadwaj, and Kohli 2010). Financial leverage represents the ratio of total liabilities to total assets (Panagopoulos et al. 2018). Financial leverage can decrease expected cash flow from the next period through interest payment commitments which may impact future risk (Bhattacharya, Misra, and Sardashti 2019; Groening et al. 2016). We measure ROA as the firm's earnings before extraordinary items in relation to its total assets (Rego, Billett, and Morgan 2009). ROA captures a firm's financial efficiency, and high ROA implies more growth opportunities and greater returns (Bhattacharya et al. 2019). We

control for profitability to account for the potential for risk seeking by troubled firms (Bowman 1982). We also control for the SGA ratio (Bhattacharya et al. 2019). These control variables are traditionally included in models that assess the relationship between a marketing strategy and firm value.

We propose binary variables, 1 to indicate a firm's focus on B2B (vs. B2C); and to indicate whether the firm focuses on products coded as 1 (vs. services) according to the firm's four-digit SIC code (Bahadir, Bharadwaj, and Srivastava 2008; Morgan and Rego 2009). We also control for industry fixed effects (Rumelt 1991) through industry dummies and for temporal effects through year dummies (Dotzel and Shankar 2019).

C. Addressing Selection Bias with Ordered Probit as the Selection Model

For first stage ordered probit model, we define

$$D_i = j \qquad if \;\; c_{j-1} < D_i^* \leq c_j \qquad\qquad j = 1,\ldots,m$$

where $\alpha_0 = -\infty$ and $\alpha_m = \infty$. Then

$$\begin{aligned} P_{ij} = Pr[D_i = j] &= Pr[c_{j-1} < D_i^* \leq c_j] \\ &= Pr[c_{j-1} < \beta X_i + u_i \leq c_j] \\ &= Pr[c_{j-1} - \beta X_i < \; u_i \leq c_j - \beta X_i] \\ &= \Phi(c_j - \beta X_i) - \Phi(c_{j-1} - \beta X_i) \end{aligned}$$

where Φ is the standard normal cumulative distribution function (CDF) of u_i. For the ordered probit model, u_i is normally distributed i.e., $u_i \sim N(0, 1) \; \forall \; i = 1, \ldots, n$.

Estimates of the first stage ordered probit model are used to construct the inverse Mills ratio (IMR) terms associated with each choice.

$$\lambda_{1i} = \sigma_{u1} \left(\varphi[c_0 - \boldsymbol{X_i}\hat{\beta}] - \varphi[c_1 - \boldsymbol{X_i}\hat{\beta}]\right) / \left(\Phi[c_1 - \boldsymbol{X_i}\hat{\beta}] - \Phi[c_0 - \boldsymbol{X_i}\hat{\beta}]\right)$$

$$\lambda_{2i} = \sigma_{u2} \left(\varphi[c_1 - \boldsymbol{X_i}\hat{\beta}]\right) / \left(1 - \Phi[c_1 - \boldsymbol{X_i}\hat{\beta}]\right)$$

where φ and Φ indicate the probability density function and cumulative distribution functions respectively.

D. Full Model with IMR variable

$$Firm\_Value_{it} = \alpha_0 + \alpha_1 Market\_Turbulence_{it} + \alpha_2 Advertising\_Intensity_{it} + \alpha_3 Market\_Size_{it} + \alpha_4 Market\_Growth_{it} + \alpha_5 Market\_Concentration_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Sales\_Growth_{it} + \alpha_8 ROA_{it} + \alpha_9 Financial\_Leverage_{it} + \alpha_{10} Profitability_{it} + \alpha_{11} SGA\_Ratio_{it} + \alpha_{12} B2B_i + \alpha_{13} Product_i + \alpha_{14} IMR_{it} + \sum_{m=1}^{M} \pi_m Industry_m + \sum_{k=1}^{K} \theta_k Year_k + \varepsilon_{it}$$

$$Firm\_Risk_{it} = \gamma_0 + \gamma_1 Market\_Turbulence_{it} + \gamma_2 Advertising\_Intensity_{it} + \gamma_3 Market\_Size_{it} + \gamma_4 Market\_Growth_{it} + \gamma_5 Market\_Concentration_{it} + \gamma_6 Firm\_Size_{it} + \gamma_7 Sales\_Growth_{it} + \gamma_8 ROA_{it} + \gamma_9 Financial\_Leverage_{it} + \gamma_{10} Profitability_{it} + \gamma_{11} SGA\_Ratio_{it} + \gamma_{12} B2B_i + \gamma_{13} Product_i + \gamma_{14} IMR_{it} + \sum_{m=1}^{M} \rho_m Industry_m + \sum_{k=1}^{K} \tau_k Year_k + \mu_{it}$$

Table W1. Calculations of Abnormal Stock Returns – Alternative Event Window (-1, 0)

	Channel Deletion		Channel Contraction	
	Coefficient	SE	Coefficient	SE
Market Turbulence	-3.60**	1.69	0.01	0.03
Advertising Intensity	0.20	1.64	-0.05	0.42
Market Size	-23.89	20.98	-6.92	8.61
Market Growth	156.17**	61.54	16.07**	7.18
Market Concentration	-31.28***	9.34	3.57*	1.87
Firm Size	5.89*	3.63	0.31	0.44
Sales Growth	67.56**	30.43	7.98	5.85
ROA	-37.65	36.23	0.64	7.13
Financial Leverage	7.23	8.52	-0.57	2.22
Profitability	-198.66**	101.36	5.39*	13.25
SGA Ratio	-34.86	43.46	9.48	5.23
B2B	-21.72	32.99	-25.89	21.11
Product	-11.47	17.34	-18.72	13.45
IMR	-10.53*	6.19	-0.53	0.83

Table W2. Estimation Results using Ordered Probit Selection Model in First Stage

	Coefficient	SE
GDP Growth	-0.19***	0.06
Junk Bond Yield	0.33***	0.11
Market Turbulence	0.00	0.00
Advertising Intensity	-0.02	0.02
Market Size	-0.08	0.05
Market Growth	-0.23	0.64
Market Concentration	0.03	0.03
Firm Size	0.15***	0.04
Sales Growth	-0.73*	0.38
ROA	-2.09***	0.69
Financial Leverage	-0.04	0.22
Profitability	0.38	0.76
SGA Ratio	1.44**	0.67
B2B	0.55**	0.33
Product	0.65**	0.31

	Channel Deletion		Channel Contraction	
	Abnormal Stock Return	Idiosyncratic Risk	Abnormal Stock Return	Idiosyncratic Risk
Market Turbulence	-1.51*	-0.20	-0.00	0.00
Advertising Intensity	-1.53	-0.97***	-0.13	-0.14*
Market Size	-29.53	9.69***	-13.83*	2.62*
Market Growth	133.74***	-13.14**	15.97***	-0.03
Market Concentration	-15.22	2.16	-4.29***	0.10
Firm Size	8.53*	0.60	0.33	-0.16*
Sales Growth	12.58	-11.40***	1.08	-1.61*
ROA	-71.29	-6.67	-0.59	-1.09
Financial Leverage	6.21	0.07	-0.60	-0.48
Profitability	-42.50	-1.16	5.84	0.93
SGA Ratio	19.32	23.24***	13.06*	0.30
B2B	9.60	24.79***	-37.14**	5.57*
Product	18.98	9.85***	-27.02**	3.35
IMR	40.27*	7.36**	-3.68	0.13

Table W3. Alternative Calculations of Abnormal Stock Returns using Market Model

	Channel Deletion		Channel Contraction	
	Coefficient	SE	Coefficient	SE
Market Turbulence	-0.95*	0.49	-0.01	0.02
Advertising Intensity	3.04***	0.59	0.07	0.36
Market Size	-4.75	7.53	-10.34*	6.18
Market Growth	112.06***	22.10	4.99	6.07
Market Concentration	-8.63**	3.36	4.78***	1.59
Firm Size	3.30**	1.31	0.10	0.37
Sales Growth	-18.28*	10.93	3.81	4.95
ROA	-76.52***	13.01	-0.38	6.03
Financial Leverage	-12.29***	3.06	1.00	1.88
Profitability	-53.76	36.40	-1.68	11.20
SGA Ratio	-83.18***	15.61	5.99	6.96
B2B	25.32**	11.85	-26.59**	14.86
Product	16.68***	6.23	-21.48**	11.37
IMR	-4.84**	2.22	-0.87*	0.50

Table W4. Calculations of Abnormal Stock Returns – Anticipated/Unanticipated Events

	Channel Deletion		Channel Contraction	
	Coefficient	SE	Coefficient	SE
Market Turbulence	-1.32*	0.70	-0.00	0.04
Advertising Intensity	1.96	1.45	-0.84	0.53
Market Size	-28.63*	16.53	-5.96	10.85
Market Growth	126.65**	54.37	19.13**	9.04
Market Concentration	-17.90**	8.25	3.93*	2.36
Firm Size	2.82	3.21	0.48	0.55
Sales Growth	24.61	26.88	9.82*	5.36
ROA	-21.80	32.01	-0.13	8.98
Financial Leverage	-2.17	7.52	-3.44	2.80
Profitability	-128.22*	69.54	12.99	16.68
SGA Ratio	-50.95	38.39	2.16	10.37
B2B	-6.42	29.14	-25.37	26.59
Product	11.85	15.32	-17.52	16.93
IMR	-5.17*	2.87	-0.56	1.04

Table W5. Alternative Calculations of Firm Risks through Total Risk

	Channel Deletion		Channel Contraction	
	Coefficient	SE	Coefficient	SE
Market Turbulence	0.92**	0.37	0.00	0.01
Advertising Intensity	-1.10***	0.25	-0.16*	0.09
Market Size	4.89	3.14	3.15*	1.73
Market Growth	-27.22***	9.22	0.41	1.45
Market Concentration	0.94	1.40	0.01	0.38
Firm Size	-1.47***	0.54	-0.12	0.09
Sales Growth	-9.94**	4.56	-2.17*	1.18
ROA	12.90**	5.43	-1.09	1.44
Financial Leverage	0.10	1.28	-0.60	0.45
Profitability	28.87*	15.18	1.00	2.67
SGA Ratio	26.01***	6.51	0.67	1.66
B2B	11.02**	4.94	6.90*	4.15
Product	8.36***	2.60	3.57	2.71
IMR	2.10**	0.93	-0.01	0.17

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Chapter 4: Conclusion

Firms are increasingly involved in channel deletion and channel contraction; however, there are very few insights on the effect of these strategies on firm performance, and importantly, why firms are involved in the channel deletion. Essay 1 of my dissertation seeks to investigate the channel deletion phenomenon by developing a conceptual framework that delineates the antecedents and consequences of channel deletion. Our study provides novel insights into the main drivers underpinning the firm's decision to delete a channel. Based on the knowledge gained from the extant literature, I also present factors moderating the link between channel deletion and its antecedents. As we detailed in the Essay 1, channel deletion is expected to have a significant positive impact on firm performance. We discussed various aspects associated with channel deletion and in the process, we bring attention of this phenomenon to marketing scholars and managers.

In this study, we abstain from the debate of whether the firm should employ a single channel or multiple channels, as various studies have advocated for the use of multiple channels (Gulati and Garino 2000; Homburg et al. 2014; Kumar and Venkatesan 2005; Kushwaha and Shankar 2013). We are fundamentally arguing that keeping an array of channels may not always be the best decision. Our study provides insights about whether channel deletion is bane or boon. Regarding the most logical candidate for channel deletion, one consideration may be that the channel which contributes least to the economic value of the firm is suitable for elimination. Another consideration may be channel share, i.e., the percentage of sales in each channel. Which channel or how many channels a firm should delete is guided by institutional knowledge. It is also noteworthy to consider that the firm needs to keep certain channels irrespective of whether the concerned channel is profitable or not. For example, an online channel is appealing to

customers as it offers a high degree of accessibility, convenience, and flexibility (Venkatesan et al. 2007).

Firms persist in competitive markets only if they act efficiently. Käuferle & Reinartz (2015) emphasize that firms that do not pursue an efficient distribution strategy will not survive in competitive markets. Hence, depending on context, channel deletion may not be a bane rather boon, and should be considered as a critical strategic decision for the firm (Chu et al. 2007).

In Essay 2, I hypothesize and empirically test the consequences (in terms of firm value and firm risk) of channel deletion strategies. In this study, we find a significant positive effect of channel deletion and channel contraction on firm value. However, there is substantial risk associated with the deletion strategies. We also highlight investors' screening cues (e.g., market turbulence) and firm's signaling (e.g., advertising intensity) that influence the impact of channel deletion and contraction on return and risk. In my dissertation study, I do not argue that a firm should undertake channel deletion strategies as a means to enhance firm value. Instead, I contend that if a channel does not fit in the big picture of firm strategy, the focal firm may undertake deletion or contraction. Although channel deletion is often a complex and difficult decision and associated with risk, it appears that firms are restructuring as they seek to prioritize their channels.

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