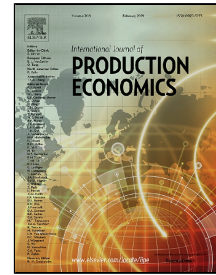


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**Investigating the Influential Factors of Return Channel Loyalty
in Omni-Channel Retailing**

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Investigating the Influential Factors of Return Channel Loyalty in Omni-Channel Retailing

Abstract:

The ever-evolving omni-channel retail environment provides customers with a variety of channels to select from when making purchases and returns. Despite the growing number of product returns, there is limited research that focuses on customers' perception of the return process in an omni-channel retail environment. To fill this gap, via an empirical analysis, this paper examines the influential factors on customers' return channel loyalty. Our structural equation modeling results found that perceived risk, purchase-return channel consistency, monetary cost, and hassle cost influence customers' return channel loyalty. Comparatively, perceived risk has the highest impact on customers' return channel loyalty. Additionally, hassle cost has more influence than monetary cost on customers' return channel loyalty. We also found that both internal (ambiguity tolerance, patience, and familiarity) and external (return policy flexibility) factors influence customers' perceived risk. Comparatively, channel familiarity has a higher influence on reducing customers' perceived risk compared with patience and the channel's return policy flexibility. Understanding customers' perceptions of a return channel is the first step in the implementation of an effective return management strategy in an omni-channel retail environment. This first step will provide retailers with opportunities to better understand the needs of targeted customers, offer improved post-sales services, and optimize their handling of product returns.

Keywords: Omni-channel; product returns; customer loyalty; perceived risk

1. INTRODUCTION

The field of omni-channel retailing is burgeoning and rapidly developing in today's business world with the development of information technology (Galipoglu et al., 2018). Omni-channel retailing aims to provide customers a seamless and unified shopping experience across all channels (Ailawadi and Farris, 2017). Omni-channel retailing can be defined as a synchronized operating model in which all the company's channels are aligned and present a single face to the customers, as well as one consistent way of doing business (Bernon et al., 2016). This movement to omni-channel retailing is an evolution from multi-channel retailing. This evolution involves: removing separation of channels to provide an integrated, seamless customer experience; embracing all available channels (e.g., store, online, mobile, social media, etc.); and adjusting channel management to emphasize cross-channel objectives instead of channel-specific objectives (Verhoef et al., 2015). Retailers must embrace not only all purchase channels, but also all return channels. Purchase channel forms include the traditional brick-and-mortar and online channels, as well as more recent blended channels such as: buy online, pick up in-store and buy in-store, home delivery (Verhoef et al., 2015). Return channel forms include: return product to retail store, ship-to-retail store, ship-to-manufacturer's/retailer's warehouse, ship-to-manufacturer's factory, among others (Bell et al., 2014).

In omni-channel retailing, retailers provide customers access to all channels that are currently available (e.g., physical store, online, catalog, mobile) and give them the ability to trigger full interaction between the channels. In addition, retailers can initiate full integration of all their channels (Beck and Rygl, 2015). Forrester Research recommends retailers and wholesalers to embrace an omni-channel strategy to break down silos and reduce operational overhead while simultaneously boosting the number of opportunities to sell products and services (Shamiss, 2018). Retailers have taken notice and begun the implementation of omni-channel strategies. A recent study found that 91% of retailers have designed or implemented omni-channel strategies (Tanner and O'Carroll, 2018). These retailers come from a wide-range of retail industries, including electronics stores (e.g., Best Buy), building material and garden equipment stores (e.g., Home Depot), health and personal care stores (e.g., CVS), clothing and accessories stores (e.g., Nike), sporting goods stores (e.g., Cabela's), and general merchandise stores (e.g., Walmart). This study focuses broadly on companies within the retail industry that

distribute and sell tangible products to customers, but the above retail sectors are particularly relevant.

While omni-channel retailing brings significant convenience to customers with maximum shopping flexibility, it also brings significant challenges to retailers and supply chains to design and manage effective omni-channel strategies. Only 8% of retailers believe they have mastered their omni-channel strategies, with over 70% of retailers dissatisfied with the implementation and management of their current omni-channel strategies (Tanner and O'Carroll, 2018). Omni-channel strategies come in a wide-range of forms. Melacini et al. (2018) focused on e-fulfillment and distribution strategies within the omni-channel environment and identified three strategic themes: (1) distribution network design, (2) inventory and capacity management, and (3) delivery planning and execution. Kembro et al. (2018) broadened the scope of omni-channel strategies to include more retail-oriented strategies such as: channel management, return management, and the role of retail stores in material handling. Omni-channel retail stores are being asked to serve as both fulfillment and return locations for online orders (Ishfaq et al., 2016a). A retail store serving as a fulfillment location must make strategic retail-oriented decisions related to store layout (display-oriented vs. fulfillment-oriented) (Hübner et al., 2016a) as well as the design of the online order pick up area (Jin et al., 2018). Managing online returns in-store is a significant operational undertaking for a retail store, as such omni-channel retailers must strategically decide which stores to allow online returns and how to best process those in-store returns. Many Italian retailers do not allow in-store returns for online orders (Marchet et al., 2018). Meanwhile, the largest and most profitable Japanese retailer allows online orders to be returned to all retail stores (Larke et al., 2018). Interestingly, Mahar et al. (2014) found through mathematical modeling that retailers should allow in-store returns for online orders only to a subset of their retail stores. This will reduce costs in comparison with the two extremes (no/all stores accepting returns). To help minimize the operational impact of in-store returns for online orders, Walmart has introduced a mobile app to speed up the return process for online purchases when returning to a retail store and allows for some products (e.g., shampoo and cleaning supplies)—where contamination is a concern—to be refunded without a return (Rosing, 2018).

A major component of any retail or return omni-channel strategy is the customer experience. Omni-channel retailing provides a more flexible and personalized customer experience which is extremely powerful and helps build a loyal following to a particular retailer

(Solomon, 2018). Companies are constantly seeking more interaction with customers through multiple touch points and channels with the objective of boosting retail sales (Bell et al., 2015). One of the major touch points revolves around returns. Customers and retailers have varying opinions on returns. Customers often view returns as a normal part of the shopping experience, meanwhile retailers view return management and reverse logistics as evils (Shamiss, 2018). Retailers should be aware of the opportunities to strengthen customer relationships and understand customers' expectations and preferences through effective return management. However, unfortunately, in reality, retailers experience significant inefficiencies, delays, and mistakes during the return process which reverses the intended effect (Shamiss, 2018). This research aims to empower retailers with a better understanding of customer expectations and preferences in the omni-channel retailing return process, which in turn will assist retailers in the development of their omni-channel return strategies.

Customer loyalty is generally focused around (re-)purchase intention. Unfortunately for retailers, today's consumers are not only demanding when making purchasing decisions, but with returns as well. Customer return rates can be as high as 22% of sales (over \$11 billion) in online channels, which result in a loss of roughly \$2 billion in revenue for retailers (Rao et al., 2014; Chen and Chen, 2017). In the United States, more than \$100 billion worth of products are returned each year due to customer dissatisfaction with their purchase (Hazen et al., 2012). A primary driver for higher returns in online channels is the inability for customers to touch, feel, or test for fit prior to purchase. Customers regularly look at the return policy before making purchases (Brill, 2015). These facts emphasize the need for retailers to focus on not only purchase channel loyalty but return channel loyalty as well. It also emphasizes the need for retailers to better manage the reverse logistics of the ever-evolving integrated and interactive channels in the omni-channel retail setting. With these high rates of returns, efficient return channel management is also critical for omni-channel retailers to enhance customers' perception of the post-sales services, which generates customer loyalty toward the retailers (Ramanathan, 2011). Offering a refund from a return is one of the most important actions of post-sales service, which greatly influence customers' perception toward the vendor and their future purchase/repurchase intention (Xu et al., 2017a).

In addition to offering a full refund, retailers have also been moving to more customer-friendly return policies, including free returns. Seventy-nine percent of consumers want free

return shipping (Rudolph, 2016). The friendliest policy provides customers free returns for all products by mail or in-store (e.g., Macy's), regardless of purchase channel. Other retailers provide customers free returns in-store but require customers to pay the postage or a flat return fee for returns by mail (e.g., Best Buy, Barnes and Noble). Even if companies adopt the same return policy and strategy in different channels, customers using different return channels can have different perceived quality of the channel, different past shopping experiences, and incur different costs when returning products (e.g., monetary cost and hassle cost). Therefore, they can perceive different emotional and social value of utilizing different return channels, and thus have different perceptions on firms' implementation of channel return policies (Moliner et al., 2007). These all influence their preference and choice of choosing specific channel to return products.

Thus, understanding the antecedents of customers' return channel intention and behavior can help companies guide customers' return channel choice to a lower-cost or preferable return channel for companies, more accurately forecast each channel's return demand, and optimize the transshipment of products between stores. Understanding customers' return channel selection behavior can also help companies make improvements (e.g., enhance channel convenience) to reduce customers' hassle cost for returns, better meet customers' requirements and expectations of the return and refund processes, and thus achieve a win-win situation of reducing costs and increasing customer satisfaction (Mukhopadhyay and Setoputro, 2005).

In comparison with traditional forward logistics, return channel management is significantly more challenging due to the uncertainties of product returns, and customers' return channel preferences. Despite these additional challenges, when compared with the studies focusing on the management of forward supply chains in an omni-channel retail setting (e.g., Gong et al., 2015; Rapp et al., 2015), the studies of reverse supply chains and return channel management in an omni-channel retail setting are largely under explored. One particular gap in the omni-channel retailing return channel management research is the exploration of consistent/cross channel return behavior (Mou et al., 2017).

To fill in this gap, this paper aims to examine the influential factors of customer loyalty on return channel selection in an omni-channel retail setting. More specifically, we examine the role of both the customers' internal factors: ambiguity tolerance, patience, and familiarity of the return channel; and external factors: the impact of a channel's return policy on customers' perceived risk. Correspondingly, our first research question is: how do internal and external

factors influence customers' perceived risk of using a particular return channel? The second research question is: how does a customer's perceived risk of using a particular return channel influence their loyalty to that channel? Our third research question stems from the unique flexibility customers' control with regard to their purchase and return channel decisions in an omni-channel retail environment. We look to explore if there is a strong preference to match the purchase and return channels (e.g., if a customer bought an item in-store, they would also return it in-store). Therefore, the third research question is: how does a customer's purchase-return channel consistency preference influence their loyalty to a particular return channel? Lastly, cost can be a critical consideration when customers choose their return channel. These costs can be tangible, measured by monetary value, or intangible, measured by customers' perception of hassle. Thus, the fourth research question is: how do monetary cost and hassle cost affect customers' loyalty to a return channel? With a better understanding of customer expectations and preferences in the omni-channel retailing return process, retailers can better tailor the management of returns to match the desires of their customers. This will hopefully reduce reverse logistics costs and enhance customers' post-purchase satisfaction.

The contributions of our study mainly lie on the following aspects. First, this is one of the first studies focusing on the return channel management in an omni-channel retail setting. Next, previous studies on customer loyalty focus on product, service, vendor, and store loyalty (Dick and Basu, 1994), but in this study we add an omni-channel specific return channel loyalty. Furthermore, we discuss both internal and external factors that influence customers' return channel choice. Understanding customer perception toward the return channel is the first step to effectively manage the reverse supply chain and improve post-sales service in an omni-channel retail setting. Managers can use these results to better understand customer return channel loyalty, which allows them to better match their policies with customer preferences, optimize their channel operations, and improve the corresponding services in each channel.

The rest of the paper is organized as follows. Section 2 reviews the relevant literature. Section 3 introduces the theoretical background and proposes the hypotheses. Section 4 describes the data analysis, and the results are presented in Section 5. Section 6 discusses the results, with Section 7 providing the theoretical and managerial implications. Section 8 concludes the study and describes the future extensions.

2. LITERATURE REVIEW

2.1 Omni-Channel Supply Chain Management

Since the turn of the century, the growing popularity of online channels for retailers resulted in a realignment of competitive priorities and a corresponding shift in supply chain management (Agatz et al., 2008). This once novel multi-channel retailing is now rapidly evolving into omni-channel retailing (Beck and Rygl, 2015). Retailers are quickly finding that the distinction between physical and online retailing is blurring as consumers become more demanding (Brynjolfsson et al., 2013). Current consumers can shop from any location, at any time, and can trigger full interaction between multiple channels with ease (e.g., buy online, pick up in-store, Verhoef et al., 2015). This forces retailers to have product readily available at any location the customer may desire (Ishfaq et al., 2016b). For a retailer to manage this effectively, it may require using retail stores as fulfillment centers (Ishfaq et al., 2016a), an advanced information technology system (Piotrowicz and Cuthbertson, 2014), and careful consideration of logistics service quality (Murfield et al., 2017). In this study, we aim to better understand the wants and needs of the consumers to allow retailers to efficiently realign their competitive strategies and supply chains to meet the evolving needs of consumers in an omni-channel environment.

Based on previous studies (e.g., Verhoef et al., 2015; Saghiri et al., 2018), research on omni-channel supply chain management can be categorized into three themes: (1) *Supply Chain Design*, (2) *Impact of Channels on Performance*, and (3) *Customer Behavior Across Channels*. Table 1 provides an overview of the omni-channel literature broken into the three themes with relevant papers summarized. The *Supply Chain Design* theme can be further broken into two subcategories: back-end fulfillment (e.g., warehouse and in-store picking; Ishfaq et al., 2016a) and front-end distribution (e.g., delivery service; Hübner et al., 2018; Marchet et al., 2018). Hübner et al. (2016b) bridged these two subcategories through discussing both back-end and front-end modifications required as companies move from multi-channel retailing to omni-channel retailing. Research in the *Impacts of Channels on Performance* theme primarily explored the effects of channel integration (e.g., Cao and Li, 2015) and the impact of the addition of a new channel (e.g., mobile channel; Wang et al., 2015) or policy changes of a current channel (e.g., Gong et al., 2015). The final theme, *Customer Behavior Across Channels*, is the focus of this study. Most studies in this category focused on customer purchase behavior (e.g., Lee and Lim, 2017; Shetty and Kalghatgi, 2018) or channel selection behavior (e.g., Gawor and Hoberg, 2018)

in the omni-channel retail setting. Gawor and Hoberg (2018) identified time and convenience as two major factors in customers' channel selection decisions. Our study instead analyzes customer product return behavior in the omni-channel retail environment, specifically focusing on the internal and external factors that influence return channel choice.

2.2 Return Management

The management and processing of product returns is a necessary evil for retailers across the globe (Blackburn et al., 2004). Return management represents one of the biggest operational challenges facing retailers, especially with the exponential growth in online shopping (Mollenkopf et al., 2007b). Current return management literature can be categorized into four themes: (1) *Design of Return Networks*, (2) *Reasons for Product Returns*, (3) *Effects of Return Policies*, and (4) *Effects of Efficient Return Management*. Table 2 provides an overview of relevant literature in each of the four themes of return management.

Literature on the *Design of Return Networks* can be further divided into two-subcategories: network optimization (e.g., Guide et al., 2006; Alumur et al., 2012) and conceptual frameworks for return management (e.g., Bernon et al., 2016). Bernon et al. (2016) was one of the first papers to explore the impact of omni-channel consumer returns on the framework of return management.

Table 1

Three themes in the relevant omni-channel supply chain literature.

<i>Theme/Paper</i>	<i>Objective</i>	<i>Main Findings</i>
<i>Supply Chain Design</i>		
Hübner et al. (2016b)	To explore retailers' transformation from separate multi-channel to integrated omni-channel fulfillment	<ul style="list-style-type: none"> • Advocate creation of channel-integrated inventory enabling flexibility and demand-driven inventory allocation • Encourage pick-up services in areas with higher outlet density
Hübner et al. (2018)	To examine omni-channel design concepts through a planning framework for last mile order fulfillment for grocery retailing	<ul style="list-style-type: none"> • Omni-channel design choices depend on internal and external factors • Internal factors driven by retailer specifics (e.g., capability of cross-channel integration); external factors driven by location (e.g., population density) and customer behavior (e.g., possibility of unattended home delivery)
Ishfaq et al. (2016a)	To determine the optimal realignment of the physical distribution process for store-based retailers engaging in omni-channel retailing	<ul style="list-style-type: none"> • Retailers utilize stores for order fulfillment and delivery • Not a one-size-fits-all solution to order fulfillment method; numerous retailer characteristics influence optimal physical distribution strategies
Marchet et al. (2018)	To explore important logistics variables for omni-channel management strategies and appropriate business logistics models	<ul style="list-style-type: none"> • Determined eleven logistics variables critical to omni-channel strategy decisions in four areas: delivery service, distribution, fulfillment, and returns • Identified four commonly used business logistics models as a function of business sector and omni-channel maturity
<i>Impacts of Channels on Performance</i>		
Cao and Li (2015)	To explore how channel integration affects performance	<ul style="list-style-type: none"> • Channel integration positively influences performance • Firm's online experience and retail store presence weaken effect
Gong et al. (2015)	To examine the channel performance effects of one channel offering a price discount	<ul style="list-style-type: none"> • Single channel price promotions can be beneficial • Negative impact for non-promotion channels can be reduced in the presence of information spillover
Wang et al. (2015)	To analyze the impact of mobile channel usage	<ul style="list-style-type: none"> • Mobile channel usage affects shopping behavior across channels • Mobile channel is primarily used in the search phase

Table 1 (cont.)

Theme/Paper	Objective	Main Findings
<i>Customer Behavior Across Channels</i>		
Gawor and Hoberg (2018)	To investigate customers' valuation of time and convenience in an omni-channel retail setting	<ul style="list-style-type: none">• Identified price as the most important factor to customers in the omni-channel retailer selection, followed by lead time and convenience• Found that home delivery is highly preferred to pick up options due to higher convenience• Calculated customers' travel time value as \$10.62 per hour
Lee and Lim (2017)	To understand customers' satisfaction and store attitude across different omni-channel shopper types	<ul style="list-style-type: none">• Customers' store attitude differs across omni-channel shopper types• Customer experience varies between reverse showroomer and showroomer
Shetty and Kalghatgi (2018)	To examine the adoption of omni-channel marketing as strategy to handle disloyal customers	<ul style="list-style-type: none">• Found that seamless omni-channel marketing tactics reduce loyalty depressing factors for well-informed and empowered omni-channel retail customers• Identified shift in bargaining power from seller to buyer in omni-channel retail environment

The second theme, *Reasons for Product Returns*, primarily revolves around the determinants of customer returns in the retail industry. Foscht et al. (2013) divided the customer base into four distinct groups that had unique reasons for product returns and provided prescriptions to management on how to minimize the number of returns. Powers and Jack (2015) found that the two primary reasons for product returns were that the product fails to meet expectations and the customer found a better product or price elsewhere. Similarly, Ahsan and Rahman (2016) explored the determinants of product returns across the retail industry. In summary, previous studies found the reasons for customer product returns can be: (a) product-related: low product quality or defects, hard to install, performance not compatible with user needs (Guide et al., 2006); (b) return policy-related: restrictiveness of the return policy (Janakiraman et al., 2016); (c) experience-related: positive prior return experience (Ramanathan, 2011), past and current purchase experience, and current marketing (Petersen and Kumar, 2009); (d) price-related: found better price (Powers and Jack, 2015); (e) psychologically related: remorse of purchase (Guide et al., 2006); and (f) change in perception (e.g., perceived quality, preferences) within the return period (Li et al., 2013). This study focuses on the reasoning process of customers' product return channel choice in an omni-channel retail setting.

Within the *Effects of Return Policies* literature there are various characteristics of return policies that have been studied: money-back guarantees (e.g., Suwelack et al., 2011), full versus partial refunds (e.g., Pei et al., 2014; Shang et al., 2017), free return shipping vs. non-refundable shipping fees (e.g., Hjort and Lantz, 2016; Shang et al., 2017), and return leniency (e.g., Janakiraman et al., 2016). These all represent *strategic* decisions related to return management for retailers. Suwelack et al. (2011) found that money-back guarantees generated positive emotional and cognitive effects to increase customers' purchase intention. Full return policies also have a positive impact on customers' purchase intention as well as the perceived fairness of the return policy (Pei et al., 2014). Hjort and Lantz (2016) found that retailers' long-term profit does not increase by offering free returns, but Shang et al. (2017) found that a non-refundable return shipping fee resulted in a significant decrease in customer valuation of the return policy. A final return policy characteristic seen in the literature is leniency. Janakiraman et al. (2016) defined five dimensions of leniency: time, money, effort, scope, and exchange. Each dimension has a unique effect on the frequency of returns. Scope leniency increases returns, meanwhile time and exchange leniency decrease returns. Our study incorporates *strategic* choices for an

omni-channel retailer regarding their return policy through return flexibility (e.g., condition of product upon return) and monetary cost (e.g., waiving the return shipping fee).

In addition to the return policy, the efficiency of a retailer's return management processes can dramatically influence customers' purchase and return intentions. This is examined in the *Effects of Efficient Return Management* theme of return management literature and represents *operational* decisions by the omni-channel retailer. Petersen and Kumar (2009) found that a satisfying return (i.e., the return process was efficient), regardless of the return policy, decreased the perceived risk of future purchases with that retailer. Ramanathan (2011) also found that the performance of the retailer handling the return had a strong impact on customers' loyalty to that retailer. Efficient return management processes are not only customer-facing, there are also back-end processes that are critical that allow a retailer to handle returns effectively. Dijkstra et al. (2017) examined the impact of dynamic strategies for the transshipment of returned inventory. In comparison with static strategies, dynamic transshipment strategies reduce unbalanced inventories and enhance demand fulfillment for both online and offline channels. Our study incorporates *operational* decisions for an omni-channel retailer regarding their return management through customers' hassle cost (e.g., efficient handling of the processing of a return reduces time and effort required by customer).

Our study bridges the above return management themes through examining both the impact of omni-channel retailer's return policies and return management on the reasoning of customers' product return channel choice. Specifically, we examine customers' return channel loyalty in an omni-channel setting by analyzing internal and external antecedents influencing customers' return channel choice. These antecedents are impacted by the retailer's channel characteristics including: return flexibility (return policy), monetary cost (return policy), and hassle cost (return management). In this way, this study can help an omni-channel retailer better prepare and design their return network through understanding customers' product return behavior.

Table 2

Four relevant themes in the return management literature.

Theme/Paper	Objective	Main Findings
<i>Design of Return Networks</i>		
Alumur et al. (2012)	To formulate a profit maximizing model for reverse logistics network design problems	<ul style="list-style-type: none"> • Creation of a flexible optimization model to allow for multiple periods, variable operating costs, capacity expansion • Case study provides insights into evolution of reverse logistics network over time
Bernon et al. (2016)	To develop a conceptual framework for network configuration including omni-channel consumer returns	<ul style="list-style-type: none"> • Return rates for online retailing can be twice as high as in-store • Difficult to find seamless solution for network design and return management
Guide et al. (2006)	To develop a network flow model that includes the marginal value of time to determine key components of reverse supply chain design	<ul style="list-style-type: none"> • Not all companies benefit from a centralized return network • High return rates, high recoverable value, and fast depreciation are characteristics that lead to a preference of a responsive return network
<i>Reasons for Product Returns</i>		
Ahsan and Rahman (2016)	To explore the determinants of product returns in the retail industry	<ul style="list-style-type: none"> • Most important service characteristics for product returns are: accessibility and friendliness of customer service, money back for any type of return, and product replacement • Least important service characteristics are: software support to handle returns, less gate-keeping rules for genuine returns, and a dedicated returns service department
Foscht et al. (2013)	To understand the reasons for returns across different groups of returners	<ul style="list-style-type: none"> • Four groups of returners identified that each have unique reasons for returns • Prescriptions for management to better handle product descriptions, return policies, and consumer perceived risk are provided
Powers and Jack (2015)	To identify the leading causes for product returns at large general merchandise stores	<ul style="list-style-type: none"> • Primary reasons for customer returns: product fails to meet expectations and customer found better product or price • Males have higher levels of both primary reasons for returns

Table 2 (cont.)

Theme/Paper	Objective	Main Findings
<i>Effects of Return Policies</i>		
Hjort and Lantz (2016)	To analyze the effects of return policies on customer behavior	<ul style="list-style-type: none"> • Free return policies do not guarantee increased long-term profitability • Lenient return policies result in higher contributions per order for repeat customers
Janakiraman et al. (2016)	To investigate the impact of return policy leniency on consumer purchase and return decisions	<ul style="list-style-type: none"> • Five dimensions of return leniency: time, money, effort, scope, and exchange • Scope leniency increases returns; time and exchange leniency decrease returns
Pei et al. (2014)	To examine the effect of full vs. partial return policies for e-retailers	<ul style="list-style-type: none"> • A full return policy positively influences customers' view of the fairness of the return policy and their purchase intention • A retailer's reputation influences customers' trust in the retailer's return policy
Shang et al. (2017)	To determine the drivers of a retailer's return policy and customers' return policy valuation	<ul style="list-style-type: none"> • Customers' valuation of a full refund policy varies widely and was smaller than anticipated • Non-refundable return shipping fees significantly decrease customers' valuation of a return policy
Suwelack et al. (2011)	To test the outcomes of money-back guarantees and their impact on customer purchase intention	<ul style="list-style-type: none"> • Money-back guarantees increase customers' purchase intention and willingness to pay a premium • Terms of money-back guarantees should be based on type of product (experience good vs. search product)
<i>Effects of Efficient Return Management</i>		
Dijkstra et al. (2017)	To determine the impact of dynamic cross-channel transshipment strategies of returned products on unbalanced inventory and demand fulfillment	<ul style="list-style-type: none"> • Reduction of inventory imbalances can be obtained through effective dynamic transshipment strategies of cross-channel returned products • Transshipment of cross-channel returned inventory creates opportunities for more effective demand fulfillment
Petersen and Kumar (2009)	To demonstrate the role of product returns on customers' future purchase intention	<ul style="list-style-type: none"> • Customers' product return behavior positively influences customers' future buying behavior • A satisfying return, regardless of return policy, can result in a decrease in perceived risk associated with making future purchases
Ramanathan (2011)	To investigate how product return performance and risk characteristics of products influence customer loyalty	<ul style="list-style-type: none"> • Efficiently handling product returns impacts customer loyalty for both high-risk and low-risk products • Important for return policy to be clearly stated

2.3 Customer Loyalty

Customer loyalty describes the relationship between customers' relative attitude and the repeat patronage (Dick and Basu, 1994). Previous literature examined product loyalty (Devaraj et al., 2001; Olsen, 2007), service loyalty (e.g., Caruana, 2002; Jones and Taylor, 2007), retail store or chain loyalty (Corstjens and Lal, 2000; Ailawadi et al., 2008), or vendor loyalty (Dorotic et al., 2011). However, there are few papers talking about customer loyalty to a particular purchase or return channel. In an omni-channel retail setting, one of the biggest channel-related issues is understanding customers' behavior across channels. Omni-channel customers not only need to decide which product, brand, and store to buy from, but also which channel to use to make the purchase (and potentially the return as well). The channel customers use in interactions with an omni-channel retailer influences their perception about the services they received, which influences their satisfaction and loyalty behavior (Wallace et al., 2004). Enhancing customer loyalty has been one of the most important strategic decisions for companies to provide a sustainable competitive advantage and have better financial performance (Martin et al., 2009).

The influential factors of customer loyalty include: (a) product- and service-related: quality (Parasuraman and Grewal, 2000), customization (Srinivasan et al., 2002), and perceived value (Yang and Peterson, 2004); (b) company-related: corporate image (Aydin and Özer, 2005) and employee performance (Salanova et al., 2005); and (c) customer perception-related: customer satisfaction (Xu and Gursoy, 2015), trust (Aydin and Özer, 2005), and price fairness (Martin et al., 2009). Our study examines the influential factors of customers' return channel loyalty from both internally (from customers' characteristics and perception) and externally (from companies' return policy flexibility).

This study bridges the research about omni-channel supply chain management, return management, and customer loyalty by examining the customers' return behavior in omni-channel retail setting. Specifically, we examine how internal factors (customers' characteristics and perception) and external factors (return policy) influence customers' return channel loyalty.

3. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

3.1 Theoretical Background

The theoretical background of this study comes from the transaction cost theory (Williamson, 1975) and consumer risk theory (Taylor, 1974). Transaction cost theory describes the experience

costs associated with the exchange between buyers and sellers in each step of the transaction. The transaction costs in a traditional purchase include information costs (e.g., searching), bargaining costs (e.g., price negotiations), and policing and enforcement costs (e.g., ensuring the product is in the promised condition and taking action if it is not) (Dahlman, 1979). Customers purchase a certain product, from a certain vendor, using a certain channel based on the consideration of these transaction costs (Williamson, 1975). The consideration of these transaction costs is equally important when customers decide which channel to use when returning products.

Transaction costs associated with product returns can be perceived differently by various customers due to their different perceived risk of returning the product (Griffis et al., 2012). Thus, the perceived return costs include consumer risk costs, which is described in consumer risk theory (Taylor, 1974). Risk can be measured by the possible loss, which can be in the form of social loss, economic loss, or both. Consumers' risk perception includes uncertainties about the outcome and consequences of their behavior. The uncertainties about the outcome can be reduced by obtaining more information, and the concerns about the consequences can be reduced through inputting less time and money (Taylor, 1974). Consumers' return channel selection will depend on their risk perception as well as their perceived costs of each return channel.

When consumers implement an action (e.g., choosing a specific return channel) frequently, it is common to see the development of loyalty. Customer loyalty describes both the attitudinal and behavioral aspects of that action (Lin and Wang, 2006). From the attitudinal perspective, loyalty reflects a high degree of dispositional commitment; and from the behavioral perspective, loyalty indicates customers' strong reuse intention (Lin and Wang, 2006). The return channel loyalty in this study describes customers' willingness and commitment to frequently reuse this channel when they return products. From the theory of cognitive psychology, customer loyalty is generated by the cognitive antecedents which include confidence, accessibility, centrality, and clarity (Dick and Basu, 1994). Confidence is the reverse scale of perceived risk, and therefore is directly negatively influenced by perceived risk (Cox and Rich, 1964). When customers perceived less risks, they have more confidence on their decisions in the shopping (or return) process, and thus trust the product, vendor, and channel more, and thus enhance their loyalty (Sirdeshmukh et al., 2002).

This study examines the role of customers' ambiguity tolerance, patience, and familiarity; and the flexibility of the return channel, on customers' perceived risk of the return channel. In addition, we examine the influence of the perceived risk of the return channel, the purchase-return channel consistency preference, and return channel cost: monetary cost and hassle cost on customers' return channel loyalty.

According to previous studies (e.g., Petersen and Kumar, 2009), the antecedents of customers' return intention and behavior should be examined in the framework of both the purchase and the return. For the purchase side, customers' purchase behavior is the key driver of customers' product returns behavior (Bonifield et al., 2010), and thus we examine purchase-return channel consistency preference on customers' return channel loyalty. This is a unique feature of the omni-channel retail setting that allows for customers to not only purchase products in a wide-range of channels, but also return the product using a wide-range of channels, regardless of the channel in which a product was purchased. For the return side, according to transaction cost theory (Williamson, 1975), return channel cost, including monetary cost and hassle cost, is one of the key factors for customers to choose return channel. In omni-channel retailing, due to the relatively new development and the multi-channel features, one of the biggest barriers for customers to use certain channels is the higher perceived uncertainties (Bell et al., 2014). Prospect theory characterizes cumulative uncertainties to forecast individual choices (McDermott et al., 2008). The uncertainties increase customers' perceived risk, which is one of the key factors for customers to consider when making decisions (Snoj et al., 2004). Customers' tolerance of uncertainties determines their view of the perceived risk in omni-channel retailing (Bell et al., 2015).

Customers' perceived risk is influenced by both external (company-related) and internal (customer-related) factors. The external factors mainly refer to the return policy leniency, namely, return flexibility in this study (Janakiraman et al., 2016). The internal factors mainly refer to the characteristics of customers. In this study, we mainly focus on the transitory characteristics of customers to channels, instead of stable characteristics such as customer demographics because transitory characteristics can be influenced by businesses' efforts (Inman et al., 2009). The two transitory characteristics we examine in this study are familiarity and patience, which are key variables influencing customers' decisions in business environment (Inman et al., 2009; Huang et al., 2016).

According to previous studies (e.g., Forsythe and Shi, 2003; Hong, 2015), customers' perceived risk can be categorized into six types: psychological, time/convenience, performance, physical, social, and financial. In this study, we examine three factors influencing these types of perceived risks. Customer patience can reduce psychological risks through the alleviation of disappointment and frustration (Lu et al., 2013), and it can reduce time/convenience risks through a reduction in perceived waiting time and costs (Liu et al., 2013). Customers' channel familiarity can alleviate performance and physical risks. Higher familiarity increases customers' ability to accurately judge the performance of the return channel (Forsythe and Shi, 2003). Thus, there are fewer physical risks, such as safety issues, caused by the malfunction of the return channel (Liebermann and Stashevsky, 2002). Return flexibility—a function of the retailer's return policies—influence social and financial risks. Flexible return policies can alleviate customers' feeling of uneasiness about interactions with the seller during the return and refund process (Hong, 2015); and it reduces the probability of an unaccepted return which in turn reduces the possibility of not receiving a refund (Hsiao and Chen, 2012). Through this external factor (return flexibility) and the internal customer transitory characteristics (patience and familiarity), we are able to fully examine all six types of perceived risk.

In omni-channel retailing, the concepts and applications are still relatively new to customers (Ailawadi and Farris, 2017), and thus customers' familiarity with the channel, namely, their knowledge level of the channel influences their understanding of the channel and perceived risk (Wang and Hazen, 2016). In addition, the omni-channel retailing environment can require a longer fulfillment lead time compared with the traditional brick-and-mortar store transaction. Thus, customers' patience—a willingness to wait to gain a benefit (May and Monga, 2013)—influences their perception during the return and refund processes, which affects their perceived risk. Patience can be a subjective feeling, in which customers do not feel frustration during waiting (Huang et al., 2016). According to ambiguity aversion theory (Ellsberg, 1961), the return and refund processes in omni-channel retailing can be a source of ambiguity due to customers' unawareness performance and time expectations of new channels. Thus, the “tendency to perceive ambiguous situation as desirable” (Budner, 1962, p.29), namely, ambiguity tolerance, becomes one of the most important antecedents of making customers feel less frustrated in the waiting process, and thus enhance customer patience (Hazen et al., 2012). The above discussed framework generates the conceptual model and the included latent variables in Figure 1.

3.2 Hypotheses Development

3.2.1 *The Influence of Ambiguity Tolerance on Customer Patience*

An ambiguous situation can be defined as the situation that cannot be appropriately identified or categorized by the individual due to the lack of sufficient cues (Budner, 1962). Ambiguity tolerance indicates the individual's comfort with ambiguous situations (Mac Donald Jr, 1970). Individuals with high ambiguity tolerance generally seek out and enjoy ambiguous situations and excel in the completion of ambiguous tasks (Mac Donald Jr, 1970). According to the subjective utility theory (Ellsberg, 1961), people choose their preferred decisions according to the expected utility and the associated probability of each outcome. Individuals with higher ambiguity tolerance are more likely to have risk-seeking personalities and have high tolerance of uncertainty (Camerer and Weber, 1992). Hazen et al. (2012) found that customers with higher ambiguity tolerance tended to have a more positive perception about product and service quality. Therefore, those customers are more willing to wait for the particular service to be completed (Feigin, 2006). A higher ambiguity tolerance influences both situational factors (e.g., decreasing customers need for a quick response) and perceptual factors (e.g., their perception of elapsed time) both of which make them have higher patience (Huang et al., 2016). Based on the above discussion, we propose:

H1: Customers' higher ambiguity tolerance has a positive impact on their patience in the product return process.

3.2.2 *The Influence of Customer Patience on Perceived Risk*

Customer patience in this study is defined as the time customers are willing to wait to complete the return and refund process. Less patient customers perceive more hazards during the transaction, and thus are more likely to abandon a transaction with high risks (Mandelbaum and Zeltyn, 2004). Customers with higher patience have less waiting costs, and thus are more likely to wait for more favorable and detailed transaction information appearing, and thus perceive less transaction risks (Liu et al., 2013). Customers with higher patience will generate less negative emotions such as annoyance (Huang et al., 2016), feel more relax and have higher perceived transaction quickness when waiting, which reduce their perceived risks (Gorn et al., 2004). Ganesan (1994) found that customers with higher patience have less perceived risks because they tend to have more positive perceptions of products and services, and build longer-term

relationship with sellers. Higher patience also reduces the perceived efforts associated with a product return, which also reduces the perceived risk associated with the return (Mollenkopf et al., 2007a). Therefore, we propose the following hypothesis:

H2: Customers' higher patience has a negative impact on their perceived risk of the product return process.

3.2.3 The Influence of Familiarity on Perceived Risk

Familiarity describes customers' understanding of an entity's current situation and actions (Gefen, 2000). Wang and Hazen (2016) explored customers' familiarity (knowledge) of quality, cost, and sustainability as it relates to remanufactured products and find that these three elements of familiarity influence perceived risk. Geo and Su (2016) showed that omni-channel customers with more information (familiarity) have lower perceived risks through the reduction of product value uncertainty and availability uncertainty. In this study, we look at customers' familiarity with the return process of a particular channel and its connection with customers' perceived risk. Kim et al. (2008) found that customers with higher familiarity usually have more previous interactions and positive experiences with a particular channel, which decreases their perceived risk of using that channel. High familiarity and previous interactions also allow the customers to better understand the possible outcomes and benefits of using that channel (Alhakami and Slovic, 1994). The increased familiarity with a return channel will also reduce perceived complexity and uncertainty associated with the return process, thus reducing perceived risk (Luhmann, 2000; Mollenkopf et al., 2007a). Therefore, the following hypotheses is proposed:

H3: Customers' higher familiarity with a return channel has a negative impact on their perceived risk of the product return process through that channel.

3.2.4 The Influence of Flexibility on Perceived Risk

A return policy can be flexible in terms of the window of time a product can be returned, the locations where the product can be returned, the method of the return (e.g., return to store vs. ship to warehouse), and the required product condition (e.g., unopened vs. opened). Rao et al. (2014) found that flexibility of returns is one of the most important aspects of a return policy, which directly influences the number of product returns. Higher return flexibility enhances customers' perception of the ease of returns in that channel, and thus also reduces the perceived

risks of returns in that channel (Lopez-Nicolas and Molina-Castillo, 2008; Ramanathan, 2011). A flexible return policy provided by the seller in a particular channel also increases the trust between the customer and seller because customers perceive higher fairness of the return policy and the associated transaction process (Pei et al., 2014). It also increases customers' confidence in the channel's credibility (Mitra et al., 1999), therefore reducing the perceived risks of having to return a product in that channel (Bakos and Brynjolfsson, 1993). Wood (2001) found that a flexibly return policy also enhances the products' perceived quality and resulted in customers making faster purchasing and return decisions. Based on the above discussion, we propose:

H4: Higher flexibility in the return policy of a particular channel has a negative impact on customers' perceived risk of the product return process through that channel.

3.2.5 The Influence of Perceived Risk on Return Channel Loyalty

Customers' perceived risk associated with the return process can stem from concerns over encountering shipping and delivery problems, having the return channel not perform as expected, loss of time (e.g., delayed processing of the return and issuing of the refund), or loss of monetary value (e.g., failure to receive full or partial refund) (Garbarino and Strahilevitz, 2004). If a particular return channel has a higher perceived risk, then customers have lower confidence in using the channel and generally judge the service quality to be less favorable (Park et al., 2005). Higher perceived risk leads customers to feel less perceived transactional safety, which is one of the determinants of customers' willingness to make the transaction (Stone and Grønhaug, 1993). Customers with higher perceived risk of the channel expect a higher likelihood of experiencing dissatisfaction with the channel performance, feel the channel is less convenient, and anticipate a less favorable outcome (Pires et al., 2004; Snoj et al., 2004). These in turn reduce the likelihood that a customer will choose that particular return channel. Based on the discussion above, we propose:

H5: Customers' higher perceived risk of the return channel has a negative impact on their return channel loyalty.

3.2.6 The Influence of Purchase-Return Channel Consistency Preference on Return Channel Loyalty

The purchase-return channel consistency preference describes customers' preference of using the same channel for both their purchase and their return. Customers' previous purchase experiences directly influence their return choice (Yan and Cao, 2017). Customers' value perception of the channel develops with the previous experience, and thus are more likely to generate positive perception when using the same channel (Mollenkopf et al., 2007b). Higher consistency also increases customers' knowledge of a particular channel, which enhances their willingness to continue using this channel (Li et al., 1999). Customers who recognize the importance of the consistent channel usage are more likely to recognize the efforts made by the certain channel, and thus keep loyalty to that channel (Andreassen and Lanseng, 1997). Moreover, customers who have higher channel consistency preference perceive a higher switching cost between channels, as can be measured by the time cost (Bendoly et al., 2005), and these customers will view the products and services have more heterogeneity in each channel (Beck and Rygl, 2015). Thus, they are more reluctant to switch. Customers using the same purchase and return channel are more likely to experience high customer satisfaction, which is an antecedent of channel loyalty (Nysveen et al., 2003). Based on the proceeding discussion, we propose:

H6: Customers' higher purchase-return channel consistency preference has a positive impact on their return channel loyalty.

3.2.7 The Influence of Return Cost on Return Channel Loyalty

According to transaction cost theory (Williamson, 1975), customers consider the transaction cost of returning the product. With information technology widely used in omni-channel retailing, it is easier for customers to search and compare the return cost in each channel (Maity and Arnold, 2013). In fact, most customers calculate the return cost before making their purchase (Peterson and Kumar, 2009). Customers can be cost-sensitive and favor the channel with lower return cost (Abad and Jaggi, 2003). According to utility theory (Ellsberg, 1961), customers want to maximize their utility, as measured by the gap between benefits and costs, in a transaction. Thus, a lower return cost can generate higher utility which can positively influence customers' loyalty toward that specific return channel (Singh and Sirdeshmukh, 2000). Customers can enjoy a cost advantage when choosing the channel with lower return fees and suffers a cost disadvantage

when choosing the channel with higher return fees (Keh and Xie, 2009). Based on the above discussion, we propose:

H7: Channel monetary cost disadvantage (i.e., higher channel return fee) has a negative impact on customers' return channel loyalty.

3.2.8 The Influence of Hassle Cost on Return Channel Loyalty

The hassle cost of product returns refers to the disutility generated by hassles associated with the product return and refund process, and they do not involve cash transfers between customers and sellers (Davis et al., 1998). Hassle cost of a product return includes the waiting time to be refunded, inconvenience and efforts from returning a product, and distance traveled to return the product (Su, 2009). Compared with monetary cost, hassle cost is harder to measure and is more personal, subjective, and psychological. It also varies customer-to-customer, and thus influences a customer's return decision to a larger extent (Anderson et al., 2009). Higher hassle cost can reduce customers' opportunistic return behavior using certain channels (Shulman et al., 2009). Customers prefer the channels that can reduce and even avoid the hassle cost when making a return (Swinney, 2011). Lower hassle cost, as reflected by higher convenience, faster processing, and less overall efforts spent, is valued by customers when choosing their return channel (Min et al., 2006). Based on the above discussion, we hypothesize:

H8: Channel hassle cost disadvantage (i.e., higher channel hassle cost) has a negative impact on customers' return channel loyalty.

The conceptual model of this study can be found in Figure 1.

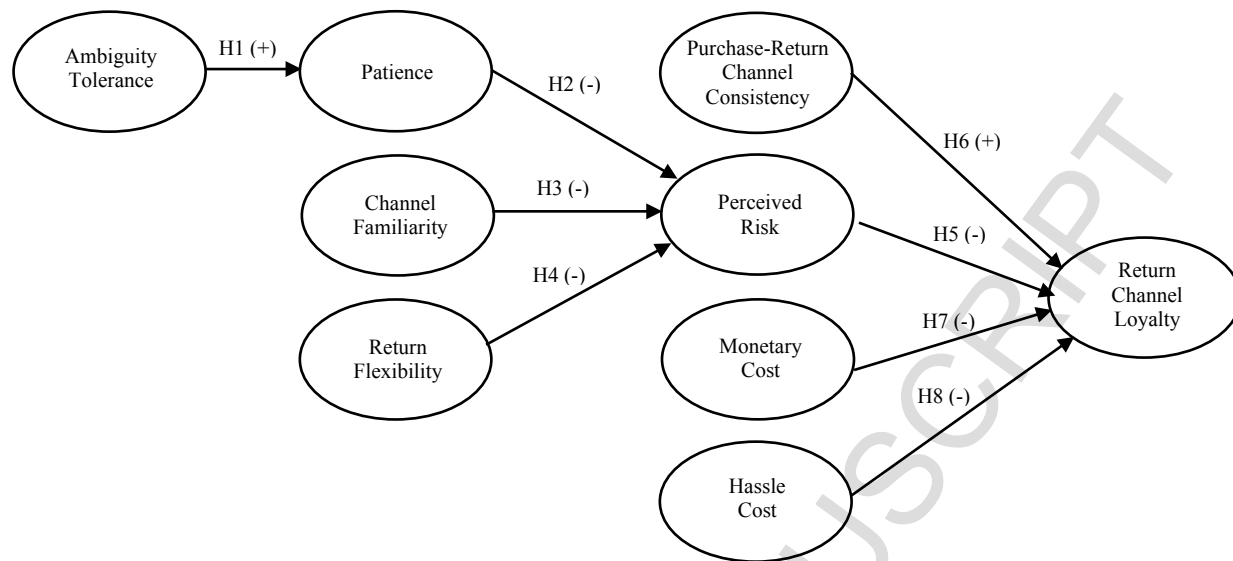


Fig. 1. Conceptual model.

4. DATA ANALYSIS

4.1 Data Collection

After the development of our survey instrument, we ran a pilot study using college students from two universities in the United States. A total of 112 surveys were completed during the pilot study. Through the use of exploratory factor analysis (EFA) with the Varimax rotation method, we excluded items that either had a low item-to-total correlation or loaded on more than one construct. The survey uses a five-point Likert-scale, where 1 represents strongly disagree, and 5 represents strongly agree.

Once the survey instrument was finalized, we collected data using Amazon's Mechanical Turk (MTurk). Potential participants in the survey were forced to have an IP address within the United States and screened to confirm that they had product return experiences. Those who failed the screening question were not allowed to continue the survey. To ensure accurate and quality participant responses, we incorporated multiple validation check questions throughout the survey. If a participant failed a validation check, their results were excluded from all analysis. A total of 490 completed surveys with no missing data were used for statistical analysis.

4.2 Respondents Profile

Table 3 provides the characteristics of the respondents. A majority of our respondents were female (60.7%) with a fairly even distribution of ages, incomes, marital statuses, and education levels. Meanwhile, Table 4 provides some characteristics associated with the returns made by the respondents. The first variable of interest corresponds to the purchase channel of the product, opposed to the return channel. This is of particular interest to determine if customers return the product using the same channel as their purchase. Initial results show that 41.8% of participants bought the product in-store, but 58.2% of products were physically returned at a retail store. It is more common for returns to deal with the retailer (85%) instead of the manufacturer (13.6%). The number one reason for returns dealt with quality issues (36.1%), followed by incorrect product, size, or color (29.0%). We attribute the latter primarily to clothing (incorrect size), as over 40% of the returns in our survey were apparel.

Table 3
Characteristics of respondents.

Variable	Response	Percentage	Variable	Response	Percentage
Gender	Female	60.7	Marital Status	Single	34.4
	Male	39.3		Married	47.4
Age				Live Together	12.0
	Under 18	0.0		Divorced	6.0
	18-24	12.8		Widowed	0.2
	25-34	42.0	Education Level	Less than high school	0.6
	35-44	23.0		High school graduate/G.E.D.	12.8
	45-54	11.1		Associate degree	13.4
	55-64	8.3		Some college or technical school	20.4
	65 or older	2.8		Bachelor's degree	36.3
Annual Income	\$0 - \$20,000	16.1		Some graduate work	3.3
	\$20,001 - \$40,000	23.4		Graduate degree	13.2
	\$40,001 - \$60,000	19.7			
	\$60,001-\$80,000	11.3			
	\$80,000+	8.4			

Table 4
Characteristics of purchases.

Variable	Response	Percentage
Purchase Channel Selection	Traditional buy in-store	41.8
	Buy online, home delivery	49.8
	Buy online, pick up in-store	7.6
	Buy in-store, home delivery	0.8
Return Channel Selection	Mail product to manufacturer's warehouse	11.4
	Mail product to manufacturer's factory	1.0
	Mail product to retailer's warehouse	24.1
	Mail product to retail store	2.7
	Physically return product to retail store	58.2
	Physically return product to manufacturer	1.2
	Other	1.4
Reason for Return	Quality issues	36.1
	Doesn't fit or meet expectations	7.8
	Incorrect product, size, color	29.0
	Found better alternative product	11.8
	Found better price	4.5
	Other	10.8

4.3 Data analysis

Following previous studies (e.g., Wang and Hazen, 2016), we used a two-step structural equation modeling (SEM) approach with maximum likelihood estimation to analyze the data. We first used confirmatory factor analysis (CFA) to assess the properties of the measurement. After confirming the desirable measurement model, we conducted SEM to analyze the interrelationships between the proposed latent variables.

5. RESULTS

5.1 Measurement Model

We conducted a confirmatory measurement model that specifies the posited relationships of the observation variables to the underlying latent variables. Table 5 shows the measurement properties generated from CFA. The model fit indices of CFA are: $\chi^2=2557.00$ ($df=866$, $p<0.01$). The ratio of the chi-square to the degrees of freedom falls below the suggested maximum cut-off value of 5.0 (Wang and Hazen, 2016), which indicates the acceptable fit of the measurement model. Our RMSEA value of 0.063 is acceptable as it falls below the maximum value of 0.08 (Kenny, 2014). All AVEs exceed the ideal cut-off value of 0.50 (Hair et al., 2010). The desirable discriminate validity is assessed by comparing AVE scores with squared correlation between the constructs, which shows that all the correlations are less than 0.85. All of

the composite reliabilities of the constructs range from 0.82 to 0.93, which exceed the ideal cut-off value of 0.70 (Hair et al., 2010).

5.2 Structural Model

We then tested the interrelationship of latent variables using a structural equation model. The estimates of each path in terms of standard coefficient and its significance are reported in Figure 2. The model fit indices are: $\chi^2=2982.09$ ($df=879$, $p<0.01$), for which the ratio of the chi-square to the degrees of freedom falls below the suggested maximum cut-off value of 5.0 (Wang and Hazen, 2016) indicating the acceptable fit of the structural equation model. The value of RMSEA =0.070, which also falls below the acceptable cut-off value of 0.08 (Kenny, 2014). From Figure 2, we can find that all of our hypotheses are supported.

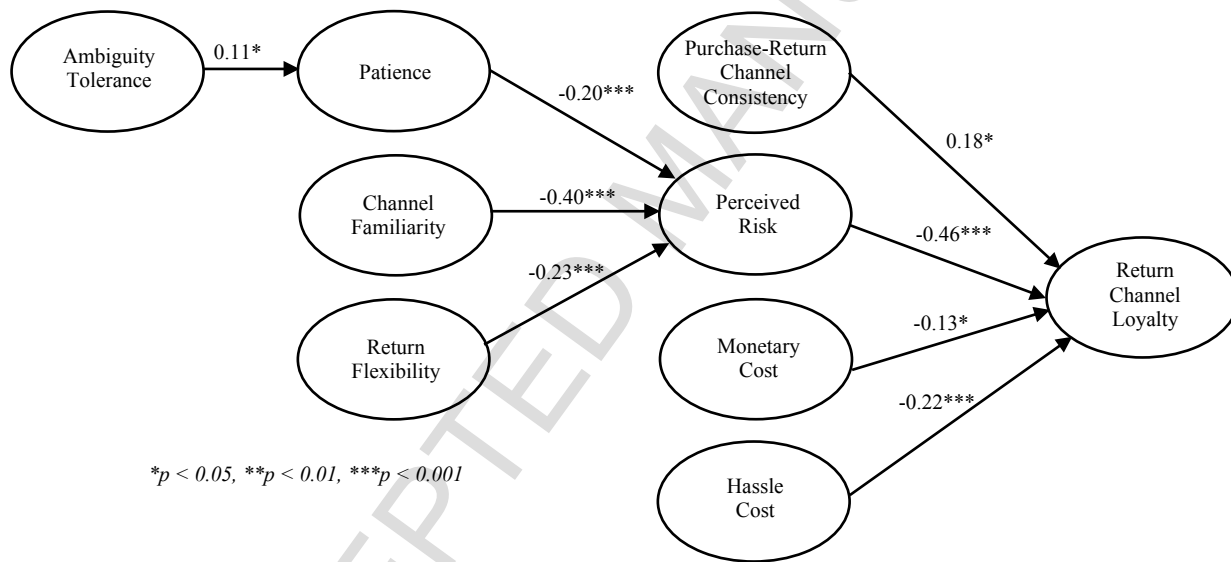


Fig. 2. Results of structural model.

Table 5
Measurement Model

Construct	Items	Standardized Factor Loading	AVE	Reliability	Sources
Customers' Ambiguity Tolerance	Comfortable with missing information or uncertainty about return process in this channel	0.85	0.62	0.82	Modified from Hazen et al. (2012)
	Comfortable with missing information or uncertainty about return policy in this channel	0.90			
	Tolerant of ambiguous situations	0.56			
Customers' Patience	Speed of return process	0.74	0.51	0.84	Modified from Gorn et al. (2004) and Huang et al. (2016)
	Patience during return process	0.81			
	Calmness during return process	0.76			
	Understanding of why return process takes time	0.62			
	Comfortable waiting to receive refund	0.63			
Customers' Familiarity with Channel	Knowledge of how return channel works	0.78	0.54	0.88	Modified from Herrera and Blanco (2011)
	Understanding of operational mechanisms of return channel	0.77			
	Experience using return channel	0.74			
	Relative to general public, I am familiar with return channel	0.73			
	Relative to my friends and acquaintances, I am familiar with return channel	0.77			
	Relative to business experts, I am familiar with return channel	0.60			
Channel's Return Policy Flexibility	Flexibility of return policy	0.86	0.54	0.82	Modified from Wood (2001), Ramanathan (2011), and Pei et al. (2014)
	Flexibility of return time window	0.82			
	Flexibility in returned product conditions	0.64			
	Flexibility in refund options/methods	0.57			
Perceived Risks of Using this Channel	Concerns over difficulty reaching customer service	0.85	0.70	0.90	Modified from Wang and Hazen (2016)
	Concerns over not receiving refund	0.90			
	Concerns over lack of experience using channel	0.75			
	Concerns over acceptance of return	0.83			

Table 5 (cont.)

Construct	Items	Standardized Factor Loading	AVE	Reliability	Sources
Purchase- return Channel Consistency Preference	Have experiences where purchase and return channel are the same	0.72	0.62	0.91	Modified from Beck and Rygl (2015) and Bendoly et al. (2005)
	Prefer to have purchase and return channel the same	0.87			
	Consider purchase channel when choosing my return channel	0.63			
	Convenient to have purchase and return channel the same	0.87			
	Comfortable having purchase and return channel the same	0.89			
	Value having purchase and return channel the same	0.69			
Monetary Cost	Relative to other channels, the restocking fee is higher in this channel	0.84	0.73	0.92	Modified from Peterson and Kumar (2009)
	Relative to other channels, the return shipping fee is higher in this channel	0.89			
	Relative to the product price, the restocking fee is higher in this channel	0.80			
	Relative to the product price, the return shipping fee is higher in this channel	0.89			
Hassle Cost	Refund process was long using this channel	0.81	0.63	0.87	Modified from Davis et al. (1998)
	This channel required significant effort to return my product	0.82			
	This channel required me to travel a significant distance to return my product	0.71			
	Return process was long using this channel	0.82			
Return Channel Loyalty	Desire to choose return channel again	0.76	0.64	0.93	Modified from Yang and Peterson (2004)
	Encourage friends and family to choose this return channel	0.84			
	Encourage people to choose this return channel	0.86			
	Consider this return channel one of my top options	0.83			
	Would choose this channel in almost every situation	0.77			
	Would share my positive attitude about this return channel	0.78			
	Would return products using this channel in the future	0.75			
	Would spread positive word of mouth about this return channel	0.77			

6. DISCUSSIONS

6.1 The Influence of Ambiguity Tolerance, Patience, Familiarity, and Flexibility on Perceived Risk of Return

The structural equation model results support H1. Customers' ambiguity tolerance positively influences their patience in the return process. The willingness of customers to endure higher levels of ambiguity results in a tolerance toward longer waiting times during the return and refund process. Hazen et al. (2012) found that customers with higher ambiguity tolerance have a higher perception of the quality of the provided services. The higher perception of quality reduces the likelihood of a complaint during the return process, indicating a more patient customer.

H2 is also supported by our results. More patient customers have lower perceived risks during the return and refund processes for a particular channel. These customers are generally more understanding during delays in the return and refund processes and worry less about the acceptance of their returns and receipt of their refund. Thus, the perceived risk of a return using a particular channel is lower.

Our empirical results support H3. Customers with higher familiarity toward the return channel feel less perceived risk when using that channel. These customers usually have more experience using the return channel, or more knowledge about the operations associated with that return channel. Therefore, they have more objective information when deciding on a particular channel, which in turn decreases perceived risk. Kim et al. (2008) also found that when customers have higher familiarity, they can build a relationship with the vendor (or return channel). This helps build trust, which reduces perceived risk.

The results from our empirical model also support H4. A more flexible return policy of a particular return channel makes customers perceive less risks of a return in that channel. Higher risk is measured in two dimensions: higher probability of a negative outcome and higher severity of negative results. The flexibility is reflected by flexibility in the accepted conditions of return (e.g., open box, without receipt), longer accepted return time window, more return locations, full refunds with "no questions asked", and various refund methods (e.g., cash back, gift cards, credit card refund). These potential forms of return policy flexibility can help reduce both the probability of a negative outcome (i.e., the retailer is more likely to accept the return) and the severity of the negative outcome (i.e., lower time and effort costs associated with the return).

6.2 The Influence of Perceived Risk of Return Channel and Purchase-Return Channel Consistency Preference on Customer Return Channel Loyalty

The results from our structural equation model support H5. Higher perceived risk of a particular return channel reduces customers' loyalty to that return channel. Higher perceived risk results in lower customer confidence (Cox and Rich, 1964) and reduced trust (Sirdeshmukh et al., 2002) in the return channel, both of which negatively affect the motivation to use and maintain loyalty to that return channel.

Our empirical results also support H6. Customers' purchase-return channel consistency preference positively influences their return channel loyalty. Customers choose their purchase channel based on the channels' convenience, accessibility, availability, performance, and their relationship with the vendors in those channels (Wallace et al., 2004). If a customer has developed loyalty to that purchase channel and has a higher preference to match the return channel to the purchase channel, then a preference for purchase-return channel consistency positively influences return channel loyalty.

6.3 The Influence of Channel Monetary and Hassle Cost Disadvantage on Customer Return Channel Loyalty

Our empirical results support H7 and H8. Monetary cost is more objective, either measured by the actual monetary cost caused by product returns, and/or the fees charged by sellers. Comparatively, hassle cost is more subjective, as measured by the individual's perception of the inconvenience caused by returns (Hsiao and Chen, 2012). Both monetary and hassle cost disadvantage for a certain channel reduces customers' loyalty in that return channel. Higher cost, no matter in the monetary or non-monetary form, increases the transaction cost during the return process, and thus reduces the utility of a return using a specific channel (Su, 2009). Many customers are cost-oriented or utility-oriented during the return process when they decide on their specific return channel (Anderson et al., 2009). Lower monetary and hassle costs encourage customers to return products using a specific channel, which creates a habit of using the same return channel and increases the switching cost to another return channel (Burnham et al., 2003). This in turn generates customers' return channel loyalty.

7. IMPLICATIONS AND CONCLUDING REMARKS

7.1 Theoretical Implications

The number of omni-channel studies in the marketing, operations, and supply chain management literature is growing rapidly. Most of the previous studies focus on the traditional forward supply chain in an omni-channel setting, which includes distribution, logistics, and sales management (i.e., from suppliers to retailers to customers, Verhoef et al., 2015). Our study contributes to the omni-channel supply chain management literature by focusing on the reverse omni-channel supply chain, namely, customers' product returns. It also opens the door for future studies to incorporate closed-loop supply chain research in an omni-channel retail environment. In addition, few studies addressed customer behavior across channels in omni-channel retailing (Verhoef et al., 2015), and regarding return management, few studies (e.g., Ahsan and Rahman, 2016) examined the reasoning process of channel selection of customers' product return in an omni-channel retail setting. This study fills in this literature gap by examining customer loyalty to a particular return channel through the framework of the purchase and the return. The purchase side focuses on the purchase-return channel consistency, and the return side includes both external factors: return monetary cost and return flexibility, and internal factors: customers' transitory characteristics: ambiguity tolerance, patience, familiarity, and return hassle cost.

Previous studies about customer loyalty mainly focused on four types of loyalty: product, service, vendor, and store loyalty (Dick and Basu, 1994). Our study contributes to customer loyalty studies by examining the influential factors of customers' return channel loyalty. Particularly, we found the significant negative role of customers' perceived risk, monetary cost and hassle cost on their return channel loyalty. In addition, we found customers do consider their purchase channel when they choose their return channel, and this preference of channel consistency positively influences their return channel loyalty.

7.2 Managerial Implications

The integrated and interactive nature of the omni-channel retail environment increases the difficulty of effectively managing the various purchase and return channels. A key component of a retailer effectively managing their return channels is understanding customers' behavior and loyalty. This study helps retailers understand customers' return channel loyalty, which can help retailers better serve the targeted customers in each channel through understanding their

perception toward the channel, their expectations and needs, and their reasons for returning products. In turn, retailers will be able to better predict customers' return behavior and provide more efficient and on-time return and refund services. This will also reduce the costs associated with customer product returns and provide opportunities to be strategic in their service recovery actions (e.g., processing a return). Through these improvements, retailers will strengthen their customer relations and encourage customers to revisit the channel (Chebat and Slusarczyk, 2005).

The findings of our study show that both purchase-related and return-related factors influence customers' return channel loyalty. This indicates that when retailers examine customers' return channel loyalty, they also need to consider customers' purchase channel. In addition, we found customers who prefer to purchase and return in the same channel (having a high purchase-return channel consistency) are more likely to be loyal to a particular channel when returning products. Therefore, retailers should encourage customers' preference of using the same purchase and return channel as it reduces their return costs through minimizing cross-channel management and increases their ability to predict customers' return behavior (i.e., where the return will come from) (Kozlenkova et al., 2015). This could be achieved by providing customers with a more flexible return policy when returning through their purchase channel.

Our study found three direct return-related factors that influence customers' return channel loyalty: perceived risk, monetary cost, and hassle cost. From the customers' perspective, perceived risk and hassle cost are internal factors, whereas monetary cost is an external factor. External factors (including return flexibility) primarily relate to the retailer's return policy. Because a channel's return monetary cost negatively influences customers' choice of that return channel, retailers should reduce return fees for their favorable (e.g., most cost effective) return channel. In addition, a flexible return policy can indirectly increase customers' return channel loyalty by reducing the perceived risk of that channel. Although flexible return policies may increase the number of product returns (Rao et al., 2014), the benefits of implementing a flexible return policy can offset the costs (Wood, 2001). Many companies such as Best Buy and Home Depot provide extended return allowance time during the holiday season. In addition, Costco's offers a cash back option at retail stores regardless of the original payment method that provides customers a high level of refund flexibility. Macy's and REI provide 100% satisfaction guarantees and allow customers to return products to their local store or online within one year if

customers are dissatisfied. They accept returns even if the product package is open or the label is missing. Companies such as Costco, Bed, Bath & Beyond, and Eddie Bauer even have lifetime warranties. Customers can return the products at any time if they are dissatisfied, no questions asked. These all provide a high level of product condition flexibility. A flexible return policy can give customers more confidence when purchasing, and thus stimulate higher demand (Pei et al., 2014).

Despite many retailers focusing on reducing a channel's return monetary cost, our findings actually recommend focusing on the two internal factors that directly influence customers' return channel loyalty: hassle cost and perceived risk. Hassle cost has a higher standardized path coefficient in our structural equation model (see Figure 2) than monetary cost, which shows customers care more about hassle cost when choosing their product return channel. Thus, retailers should focus their efforts to reduce hassle cost. Unlike the explicit monetary cost, hassle cost is a more implicit cost that cannot be directly reduced. The perceived hassle can be reduced by: reducing the refund processing time, reducing the effort required to return the product (e.g., provide a shipping label), reducing the travel distance for a return, or reducing the return processing time. Amazon reduces the refund processing time by allowing customers to get refunded via gift card as soon as the refund is processed. Alternatively, Walmart allows customers to return products to any retail store. In this way, if customers bought the product from a store when they were travelling, then they can return the product at the nearest store after returning home, which reduces their travel distance, time and efforts in returning the product to a physical store. Companies such as Home Depot, Kohl's, and Costco do not require original receipts for customers to get a full refund as long as they use the same credit card as when purchasing the product. This also increases the convenience by avoiding the worries and hassles to find the original receipts.

Of our four direct factors influencing customers' return channel loyalty, perceived risk has the largest standardized path coefficient (in absolute value) in our structural equation model and thus has the highest influence on customers' return channel loyalty. This result is critical for retailers, as it emphasizes the need to reduce perceived risk more so than the more commonly considered monetary and hassle costs. The perceived risk of the return mainly comes from customers' concerns about an unaccepted product return, the loss of a product during the return, refund issues, time delays in the return process, and any other time, effort, and cost associated

with the process. An actual reduction in the risk of returns—both in occurrence probability and the consequences—is important for retailers, but it is critical that retailers let customers perceive their efforts in reducing return risks to ensure a reduction in customers' perceived risk.

Compared with the purchase process, the return process causes customers to have higher perceived risks due to the lower frequency of returns in comparison with purchases. Our analysis provides three areas where retailers can focus their efforts to reduce perceived risk: customers' patience, channel familiarity, and return flexibility. Of the three, channel familiarity has the highest standardized path coefficient (see Figure 2) and thus has the highest influence on perceived risk. This is an important insight for retailers as it moves their focus away from return policy decisions (e.g., return flexibility) and more toward increasing customers' familiarity with new channels. This aligns with the findings in the factors that directly influence customers' return channel loyalty in that customers are reporting the internal factors to be more influential in their loyalty than external factors. To address channel familiarity, retailers can provide operational details about the return process in the new channel through advertisements and online demonstration videos or encourage customers to contact their customer service center (online, call center, or in-store) to inquire about any process-related questions. Companies can also offer discounts (e.g., coupons) for a new channel to incentivize customers to use the new channel. This will increase their familiarity and ultimately reduce their perceived risk.

Customers' perceived risk can also be reduced by a higher level of customer patience, which is positively influenced by their ambiguity tolerance. To address this, companies can reduce the ambiguity during the return and refund process. Much of the ambiguity in the return and refund process stems from information asymmetry. Retailers should efficiently communicate with customers about the progress of returns (e.g., tracking information for mailed product returns) and the reasons for the longer processing time. These tactics will reduce the number of sources of customers' ambiguity, which will enhance their perceived controllability and reduce frustration and impatience while waiting for their refund.

7.3 Concluding Remarks

This study focuses on the influential internal and external factors of customers' return channel loyalty in omni-channel retailing. Our results show that purchase-return channel consistency positively influences customers' return channel loyalty. Meanwhile, both customers' perceived

risk and return costs (monetary and hassle) negatively influence customers' return channel loyalty, with perceived risk being the most influential factor. The results also indicate that hassle cost has a higher influence than monetary cost on customers' return channel loyalty. We also find that customers' perceived risk is negatively influenced by customers' transitory characteristics (ambiguity tolerance, patience, and channel familiarity) and external factors (a channel's return policy), with channel familiarity being the most influential factor.

These results highlight the core conclusions and provide retailers with insights and opportunities to adjust their return channel performance and strategies to influence customers' return channel loyalty. First, the implementation of a universal return policy across all return channels does not necessarily translate to the same return channel loyalty for all customers. There are many internal factors (e.g., perceived risk and hassle cost) that influence customers' loyalty even with identical return policies. Second, companies should differentiate customers' perceived channel performance from the actual channel performance. Perceived channel performance is influenced by the actual channel performance, but also largely depends on customers' perception toward the channel, which includes perceived risk, perceived quality, and perceived hassle cost (van Birgelen et al., 2006). Third, companies should also improve various service components of the return process. Our study finds the speed of processing the return and the availability of tracking information influence customers' return channel choice through their patience and perceived risk. The process must also be clearly stated upfront and transparent throughout. The friendliness of customer service representatives and convenience of the return affects the hassle cost, which affects customers' return loyalty toward a particular channel. In summary, even if companies adopt the same return strategy in different channels, they should pay attention to varying customer perception toward each channel, the characteristics of customers using each channel, and the service components of the return process in each channel. In this way, companies can guide customers' return channel selection behavior toward the company's preferred return channel.

In addition to understanding the influential factors of customers' return channel loyalty, the findings of our study can also assist retailers in the management of product returns. Knowledge of customers' return channel loyalty in an omni-channel environment can help manage returns and increase profit through the following ways. First, by understanding the antecedents of customers' loyalty to specific return channels, retailers can guide customers to use

their preferred return channel. The preferred return channel can include the channel that is the same as the purchase channel, and thus saves companies' cross-channel return management costs or the channel that has the lowest reverse logistics cost. Second, by understanding the influential factors of customers' return channel choice, companies can better predict customers' return behavior in each channel to better allocate the necessary resources to handle the return. Transshipment of cross-channel returned products can also be more accurately prepared in advance due to a better understanding of customers' return channel selection behavior. Third, by understanding the antecedents of customers' return channel selection behavior, companies can stimulate more demand. For example, a more flexible return policy reduces perceived shopping risk and increases the customers' trust in the seller, which results in the customer utilizing the seller more frequently (Wood, 2001; Mukhopadhyay and Setoputro, 2005). Additionally, because the return and refund processes are some of the most important pieces of post-sales services, understanding customers' return channel loyalty can allow companies to better serve customers through improved training for customer service representatives to ensure a high service level. This will in turn generate more customer satisfaction, retention, and new customer demand (Xu et al., 2017b).

One main limitation of this study is that we did not differentiate the influential factors of customers' loyalty on each unique return channel. Future studies can extend the current studies by investigating how customers' perceptions and desires change in each return channel. Future studies can also explore incentivizing customers to switch from their preferred return channel (i.e., switch to a more cost-effective return channel for the retailer). Studies of this nature can help quantify the utility of a particular return channel for customers in an omni-channel retail setting. In addition, the product type (hedonic versus utilitarian) can influence customers' loyalty on certain channels when they purchase or return, which can be further examined. Lastly, customer demographic information such as gender, age, and education level may influence their perception on certain channels, and thus can be researched in future studies.

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Highlights

- This study investigates customer perceptions on omni-channel retail returns.
- Channel familiarity has the highest impact on reducing perceived risk.
- Perceived risk is the most influential factor on customers' return channel loyalty.
- Hassle cost has higher influence on return channel loyalty than monetary cost.
- Purchase-return channel consistency positively influences return channel loyalty.