

New Fashion Products Development through Consumer Co-Creation

Jaekyong Lee · Ho Jung Choo*[†]

Dept. of Textiles, Merchandising and Fashion Design, Seoul National University
*Dept. of Textiles, Merchandising and Fashion Design, Seoul National University/
Research Institute of Human Ecology, Seoul National University
Received December 19, 2022; Revised March 9, 2023; Accepted April 27, 2023

Abstract

New product development (NPD) is crucial for fashion brands as they are required to constantly innovate in product design and technology to remain competitive in the global fashion market. In this study, we investigated the co-creative new fashion product development (NFPD) process to understand its structural characteristics and examined the components of this business model through case studies. Fashion companies frequently collaborate with consumers to create unique and innovative fashion items that both satisfy consumer demand and expand their economic potential. Base on case studied involving consumer participation in NFPD, our study analyzed the structural characteristics of the co-creative NFPD process. Consequently, our investigation identified five key factors of the co-creative NFPD business model: co-value, co-creator, co-activity, co-platform, and co-partner. The co-creation approach established in this study will help advance research on new fashion strategies and provide foundational information for Korean fashion companies that are facing an increasingly competitive global market, thus making a significant contribution to the literature.

Key words: New fashion product development, Co-creation, New fashion product development process, Consumer participation, Co-creation business model

I. Introduction

Korea was the world's third-largest export power country in the fashion and textile industry, accounting for 10% of global apparel exports. However, growth began to decelerate after 2010, and eventually a negative growth rate of 3.6% was recorded after 2019 (Korea Federation of Textiles Industries [KOFOTI], 2020). Accordingly, Korean fashion brands are facing challenges due to increasing manufacturing costs and declining profitability while negative growth in the Korean fashion and textile industries has accelerated since the 2020 pandemic (KOFOTI, 2020; Park & Lee,

2018). A strategy to leverage external resources is required to achieve innovation in product design and technology to enhance Korea fashion companies' global competitiveness in the increasingly competitive global fashion market.

Companies have achieved innovation through role division and augmentation of expertise to survive in a stronger competitive global environment. Furthermore, in most industries, focusing on core competencies is considered a source of competitive advantage (Gassmann, 2006). Chesbrough (2003) proposed open innovation as a new paradigm for management innovation, claiming limitations in performing the entire process of product research, new product development, and market launch within a limited-resource organi-

[†]Corresponding author
E-mail: chooho@snu.ac.kr

zation. Open innovation is characterized as innovation in which valuable ideas can emerge and be commercialized from within or outside the organization (Chesbrough, 2003). Particularly, cases of innovation based on external resources are increasing in the field of research and development (R&D), as is the relationship between external knowledge and innovation resources (Stern & Porter, 2001).

Co-creation is described as a process in which consumers actively participate in the new product development process, determine various aspects of the new product, and collaborate with companies to develop new products (O'Hern & Rindfleisch, 2010). Researchers have proposed various methods for applying consumer participation since Czepiel (1990) suggested that it could increase customer satisfaction. Additionally, Prahalad and Ramaswamy (2000) emphasized the importance of the consumer's role in the co-creation process by shifting the economic concept of value from companies to consumers. Previous studies of value creation systems in successful firms have concentrated on consumer capabilities and roles (Bendapudi & Leone, 2003; Prahalad & Ramaswamy, 2000). Furthermore, researchers have recently begun to be attentive to co-creation models using information technology (IT) in the corporate environment altered by the advancement of information and communication technology (Kalaiganam & Varadarajan, 2006).

New product development (NPD) is a crucial function for fashion brands, and increasing the quality and frequency of fashion collections is critical for growth and survival (Tran et al., 2011). Thus far, extant literature on NPD through open innovation have primarily focused on co-creation environmental factors (Sanders & Stappers, 2008), consumer participation motivation (Füller et al., 2009), and moderating variables, such as success and failure factors (Aquilani et al., 2016; Hoyer et al., 2010; Koo & Rha, 2012). Consumers' active participation in the NPD process can increase the likelihood of success of the new product. Additionally, because it is recognized as increasing market acceptance (Business wire, 2001, as cited in Hoyer et al., 2010), various studies on value creation through co-creation

with consumers are being conducted in the clothing field. However, the focus is on details, such as the co-creation process (Choi et al., 2016), co-creation communication (Katz & Sugiyama, 2005), co-creation knowledge formation (Acharya et al., 2018), and co-creation design effect (Zhang & Ma, 2022) rather than the structural characteristics of the new fashion product development (NFPD) process through co-creation.

Co-creation utilizing consumer participation has gained attention in various fields, but there is a lack of research on its application for developing new fashion products. Given the variety of sizes and structures in fashion companies, it is crucial to investigate the structural characteristics of the product development process to successfully create co-creative new fashion products. Technological advancements have led to significant changes in consumer roles, impacting the fashion industry (Parker-Strak et al., 2020). However, most literature on NFPD strategies focuses primarily on the speed of the NFPD process (Tran et al., 2011). To enable fashion companies to quickly utilize research results related to the successful development of new fashion products through consumer participation, research on consumer co-creation should identify the role of various structural characteristics and present examples for companies. Therefore, this study examines the case and characteristics of each component for successful implementation of co-creative NFPD at the corporate level.

II. Theoretical background

1. Co-creation

Kambil et al. (1996) suggested co-creation as an innovation strategy involving consumer collaboration. Furthermore, businesses are implementing various methods to involve external personnel, such as consumers, in corporate activities that were previously conducted solely by internal personnel (Qi et al., 2021). Consumers do not simply purchase products or services and recognize experiences as a field of value

through participation in co-creation; they progress to the stage of purchase through the value of experience (Pralhad & Ramaswamy, 2004a). Active consumers operate as co-creators in the development of their experiences in co-creation (Pralhad & Ramaswamy, 2004b). Companies cannot generate new product ideas only by actively involving consumers in the process of developing new products; they can also increase the likelihood of new product success by appropriately reflecting consumer needs (Hoyer et al., 2010). The term “co-creation” refers to all activities in which companies and customers collaborate to create value (Ramaswamy, 2011). Consumer co-creation activities refer to numerous different stages of the NFPD process, including ideation, product development, commercialization, and post-launch (Hoyer et al., 2010).

Improvements in the Internet environment due to advancements in information and communication technology broaden the interaction space among businesses and consumers while significantly decreasing time and cost. Therefore, numerous consumers have participated in co-creation activities without time or geographical limitations; thus, the magnitude of co-creation has increased drastically (Füller et al., 2009). Moreover, information and communication technology is used for process management, project management, information knowledge management, and collaboration and communication platforms between participants in the NFPD process. Accordingly, it augments consumer authority and enjoyment in the process of co-creation (Nambisan, 2003).

2. Co-creation Business Model

A business model is a set of interconnected activities that determine how a company connects with external stakeholders and conducts business to create value (Amit & Zott, 2012). Additionally, it is a useful framework for explaining the rationale behind how organizations create and deliver value (Osterwalder et al., 2010). Business model innovation is the process of improving an existing business model or developing a new business model that better satisfies consumer

needs (Massa & Tucci, 2013). Therefore, it is recognized as crucial by both business practitioners and researchers because it can be used as a future value resource, differentiated corporate strategy, and competitive advantage tool (Amit & Zott, 2012). Thus, companies sometimes use innovative changes in business models as a means of maintaining and augmenting competitive advantage (Kim et al., 2015).

Co-creation is a type of open innovation in which internal business activities are extended to interactions with external consumers. Therefore, a co-creative business model that is useful for business activities through co-creation is required (Frow et al., 2015; Nenonen & Storbacka, 2010). The NPD business model is a unique model for creating co-value through co-creation. Furthermore, when developing a co-creative business model, companies should establish clear criteria for the level of consumer engagement based on how they communicate with consumers and how they develop new products that work for their brand (Gembariski & Lachmayer, 2017). Numerous studies on co-creation business models have been conducted, and researchers have explained the components of business models to successfully conduct business based on co-creation characteristics.

Several researchers have proposed business models for co-creation using the business model canvas (BMC) (Kohler, 2015; Ng & Briscoe, 2012). BMC comprises nine business areas and assists in understanding how the organic relationship of blocks generates profits for the company. Osterwalder et al. (2010) Business Model Canvas (BMC) described the business model in the following order: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure. Furthermore, the nine blocks are categorized into four: customers, offer, infrastructure, and financial viability. Gembariski and Lachmayer (2017) also investigated BMC-based co-creation business models. According to Gembariski and Lachmayer (2017), distinct criteria for the level of consumer participation, communication method with consumers, and NPD method that is

effective for a brand must be prioritized when a company develops an NPD strategy based on consumer participation. Furthermore, customer segments, value propositions, channels, and customer relationships are crucial factors in the business model of an NPD through co-creation for increasing the co-value created. Frow et al. (2015) emphasized the importance of co-creation design, focusing on the various opportunities provided by innovation strategies through co-creation. The researchers proposed a co-creation business model framework that included the motive, form, engaging actor, engagement platform, level of engagement, and duration of engagement of co-creation such that value creation activities through co-creation can be performed beyond the boundaries of the company. In another study (Fedorenko & Berthon, 2017), co-creation business models were studied to investigate the process of open innovation through crowdsourcing while implementing common values. According to the results of the study, co-creation business models comprise seekers, contributors, platforms, engagement mechanisms, and objectives in an online environment. The researchers used the term crowdsourcing business model to emphasize that new value can be created through a business model that employs the masses online.

3. New Fashion Product Development (NFPD) process

The functions and roles of each stage must be distinctively defined and structured among the participants for the NPD process to function correctly (Cooper & Kleinschmidt, 1993). Furthermore, all activities in all NPD processes must be completed to a greater extent for all companies to succeed in NPD; however, the importance of each stage varies depending on the product's characteristics (Cooper, 1979). The activities of the NPD process based on decision-making differ depending on the type of industry or corporate structure (Cooper, 1983a; Maidique & Zirger, 1984). In the industrial NPD process, the composition and importance of each stage vary based on the charac-

teristics of the product and the average activity time for each stage varies significantly (Cooper, 1983b).

Various models have been proposed for the NPD process of fashion companies, and the sequential process of developing new fashion products is described in a linear form based on the functional roles of the participants (Burns & Bryant, 2007; May-Plumlee & Little, 1998; Moretti & Braghini Junior, 2017; Rozenfeld et al., 2006). The NFPD process is first classified into three stages: planning, development, and presentation phases (Kunz, 2010; Lee, 2004). The model of Rozenfeld et al. (2006) is subcategorized into nine stages: strategic planning, project planning, informational project, conceptual project, detailed project, production preparation, product launching, monitoring of product/process, and product discontinuation. Moreover, it is generalized compared to other processes, making it useful for understanding the structure of apparel product development models (Moretti & Braghini Junior, 2017). May-Plumlee and Little (1998) proposed a six-step process in which individual products of various lines are developed each season and classified according to product-planning time and production repeatability, suitable for all types of new apparel. The six-phase model, no-interval coherently phased product development (NICPPD) model for apparel, complements the limitations of the previous NFPD model for apparel, which was proposed as a serial model in a sequential form, and describes various tasks that occur simultaneously. Moretti and Braghini Junior (2017) suggested an Apparel Product Development Process (APDP) that can be used as a reference model in the process of developing a NFPD process. A unique feature of APDP is that each step is observed at various levels, such as macro phases, phases, and activities, which presents a three-dimensional view of the NFPD process. Burns and Bryant (2007) suggested an eight-step process suitable for mass production, and Wickett et al. (1999) suggested a four-step process suitable for private label apparel development. Keiser et al. (2017) suggested an eight-step process for fast fashion and emphasized that all departments involved in each step should participate in rapid decision-making

for a fast process.

A typical NPD process plans phases from various angles prior to product development to evaluate the success potential of a new product. In the planning process of the general NPD process, companies evaluate the necessity for NPD from a long-term perspective through the process of ideation, idea screening, marketing strategy development, and business analysis (Cooper & Kleinschmidt, 1993). Although the direction is specifically set, the NFPD model focuses on creative product development, and the development phases embody various stages of activities (Silva & Rupasinghe, 2016). NFPD generally reinforces brand freshness and novelty by reflecting novel trends based on a distinct brand identity; thus, the NFPD process proceeds based on a seasonal strategy (Tran et al., 2011). In the development stage of the general NFPD process, the R&D department spearheads the development of new products, and even in the case of fashion brands, the NFPD process is operated with the design and technology teams playing the role of R&D at the center. The development process of the NFPD process involves various tasks, such as research, concept development, design development, prototype development, evaluation, style selection, technical development, line optimization, and line marketing. Both general new products and new fashion products have a common point in those products that customers have evaluated and are produced in factories and released. However, planning for production is included in the NFPD process. Regarding fashion companies, the NFPD process includes the planning process for production because the NFPD process consists of several seasons (at least twice a year) for the release of new products to the market (May-Plumlee & Little, 1998; Parker-Strak et al., 2020).

Fashion companies involve consumers in the new product development process to generate new product ideas and increase the likelihood of success (Hoyer et al., 2010). However, identifying the appropriate co-creation model that aligns with a company's size, operating method, and the proposition of consumer participation can be challenging. To address this issue, it is

crucial to understand the structural characteristics of the NFPD process through co-creation and examine various case studies that highlight the unique aspects and benefits of co-creation. In addition, this can be achieved by providing examples of how each constituent factor facilitates the quick application of research findings by fashion companies, with the goal of enabling them to develop new products successfully through co-creation. Therefore, the following research questions are framed:

- RQ.1. What are the structural characteristics of the co-creative NFPD process?
- RQ.2. What are some specific examples of each component?

III. Research Method

We searched successful NFPD cases involving consumer co-creation in the last 16 years (2007.01.01~2022.12.31) and found ten prominent cases as an initial list. Five fashion industry experts with doctoral degrees participated to the discussion on the NFPD process of these cases. The theory of NPD through co-creation was initially reviewed, with an emphasis on studies on co-creation trends in the textile and fashion industries, related articles, and research reports from government agencies and private firms on the market situation. Through literature review, this study considered open innovation in which consumers participated as external resources as a category of co-creation. This study defined consumer participatory NFPD as an activity in which a consumer collaborates with a company and participates as a co-creator, buyer, and user of a product, actively contributing to the development of various aspects of a new product (Fuad-Luke, 2009; O'Hern & Rindfleisch, 2010). We searched for cases of consumer participation in new product development in the fashion industry through literature, research, and search engines, and selected ten cases that showed good sales performance or had positive feedback from the public and consumers. After presenting the NPD process and case achievements to experts, six cases of consumer participation-based NFPD were se-

lected for their differentiated co-creation process, methods and meaningful results.

These six cases were selected based on co-creation and design selection criteria, with five experts focusing on different types of co-creation. The six cases were selected based on the following criteria: 1) sales performance, 2) favorable feedback from consumers, 3) significant consumer input to NFPD, and 4) Diversity of co-creation processes, methods, and design selection methods. Among the six cases, Threadless, Akamae, and Awaytomars are fashion brands that mainly create new fashion products with consumer contributions, while Adidas, Nike, and Fila limit NFPD with consumer contributions to specific projects. These six cases demonstrate different types of co-creation and design selection methods, and a summary of the selected cases is presented in <Table 1> below.

After selecting six cases, additional data were collected for the selected cases. First, data were collected from the official websites of the six companies, research and annual reports of the companies, research articles published at academic journals on the cases of co-creation of the six companies, and related lay articles and books. Additionally, data were collected by searching Google, an Internet search service, for

“Threadless co-creation,” “Akamae co-creation,” “Awaytomars co-creation,” “Nike Plus,” “Adidas made for,” and “Filaboration.” The collected data were classified and organized into target consumer, value purpose, key activity, channel, and key partner that constitute the co-creation business model, to analyze the process of developing new fashion products from various angles (Fig. 1). Value proposition is a product or service that solves a customer's problem or satisfies the customer's need by presenting the value that a company provides to its target customer through co-creation. Target customers are individuals or groups that fashion firms work with to create new products, and interactions with them serve as a significant source of creativity for the development of new products through co-creation. Additionally, target customers are important purchasers of newly developed products. Key activity involves the development of a new fashion product as an activity that a company engages with its target customers to create the proposed value. Channel is a path through which companies and target customers interact to realize the proposed value, and refers to a method for providing target customers with values realized through co-creation. Key partner is a partner or subcontractor who facilitates ongoing co-creation

Table 1. Case study companies' characteristics

Company	Number of employees (Year)	Industry	Products	Area served	Type of business
Threadless	100 (2020)	Retail	Apparel, Phone cases, Shoes, Bags, Notebooks, etc.	Worldwide	BtoC, CtoC
Akamae	5 (2020)	Apparel, Accessories, Service	Apparel, Accessories	Worldwide	BtoC
Awaytomars	15 (2021)	Retail, Service	Apparel, Accessories	Worldwide	BtoC, CtoC
Nike	79,100 (2022)	Apparel, Accessories, Sports equipment	Athletic shoes, Athletic apparel, Sporting goods, Accessories	Worldwide	BtoB, BtoC
Adidas	57,016 (2018)	Apparel, Accessories, Sports equipment	Athletic shoes, Athletic apparel, Sporting goods, Accessories	Worldwide	BtoB, BtoC
Fila	260 (2020)	Apparel, Accessories, Sports equipment	Athletic shoes, Athletic apparel, Sporting goods, Accessories	Worldwide	BtoB, BtoC

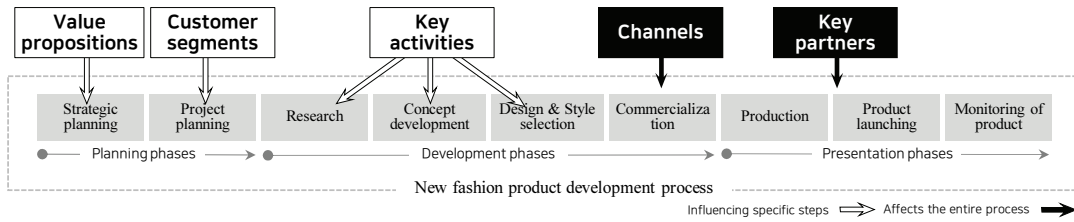


Fig. 1. Five components of co-creation business model.

activities and assists in co-creation activities.

In the planning phases of the NFPD process, value proposition is established and target customers are selected. The use of channels for key activities for target customers to develop and implement common values in the entire NFPD process were the most crucial factors for the success of new products. Key partners in co-creation strengthened the continuity and differentiation of creative activities rather than determining the success or failure of NFPD.

IV. Results and Discussion

1. Threadless

Threadless company was founded in the US in 2000 by two designers. Threadless, which started as an early T-shirt-design competition, now runs an online community of artists and an e-commerce website (Lawton, 2006). Threadless has been recognized as an ideal model for crowdsourcing (Robey, 2017). The number of users of Threadless rapidly increased owing to the development of social networks and digital technologies (Soley, 2015). Currently, the company's product lines have expanded to clothes, accessories, and household goods (Threadless, n.d.-a). According to Professor Karim Lakhani of Harvard business school, Threadless is a company in which customers play a critical role across all operations: idea generation, marketing, and sales forecasting (Sipress, 2007). All these operations have been distributed, from developing new products to selling and marketing.

Threadless provides gift certificates and royalties to consumers whose designs are selected, and prize money to consumers whose designs are selected weekly

(Robey, 2017). Additionally, it provides various opportunities for creative people to express and commercialize their ideas. Threadless is co-creating with consumers who desire to directly or indirectly participate in the development of new fashion products, and these products are sold to consumers who are willing to purchase unique products that reflect their preferences (Nickell & Kalmikoff, 2010). Moreover, Threadless conducts a design challenge to commercialize the ideas of consumers with talent and interest in design (Threadless, n.d.-b). Customers who submit designs in this procedure occasionally use various social networking services (SNS) to advertise their designs to obtain voting points. Threadless conducts every aspect of its operations—from product development to sales—online. Recently, Threadless products have been sold in partnership with Brick-and-Mortar retail stores to satisfy customers offline. Arguably, artists are Threadless' most vital partners. Threadless enables artists to sell their products through its online marketplace, while enhancing the community's sense of design. <Table 2> presents the results of analyzing the co-creative business model of Threadless.

2. Akamae

In 2011, Cara Boccieri and Lauren Braid formed the Ways of Change (WoC) social venture because they were both researching the self-sufficiency of refugee groups in Thailand and Myanmar (Fernando, 2017; O'malley, 2018). With a particular interest in refugee resettlement, Boccieri used a holistic approach where in people can bring about positive change in their communities and ultimately, in the world (O'malley, 2018; Wendy, 2017). Akamae connects talented design par-

Table 2. Co-creative business model of Threadless

Construct	Contents
Value proposition	- Fashion products with creativity and fun - Monetary compensation - Commercialization service for creative design
Customer segment	- Customers who desire to participate in the process of developing and selecting new fashion products - Customers willing to buy unique products that reflect their preferences
Key activity	- Design challenge
Channel	- Online platform - Offline store
Key partner	- Artist

ticipants with refugee artisans and develops fashion products through their co-creation activities. Boccieri collaborated with refugees in Thailand, while Braid concentrated on social media marketing and established an online store in California to create new fashion products (Black-Paulick, 2017).

The ultimate goal of Akamae is to become a sustainable ethical fashion firm, not a for-profit fashion brand, by creating new products through co-creation activities (Boccieri, n.d.). Akamae proposes the value of cultural coexistence and ethical fashion with consumers who desire to help refugees become self-reliant (O'malley, 2018). Akamae is developing new fashion products, targeting consumers who are interested in the independence of refugee communities and consumers who are willing to purchase ethical fashion products. Designers, students majoring in fashion or design, and consumers who desire to create new community values participate in Akamae's co-creation

programs (Hailey, 2017). Akamae is conducting three programs: fashion design through one-on-one co-creation, capsule collection through group workshops, and community training for co-creation based on the characteristics of the participants and the skills of the refugee artisans (Yimin, 2019). Akamae conveys the value and meaning of the co-creation program through an online platform and recruits participants. New products developed through offline design workshops are sold through the Akamae online platform (Boccieri, n.d.; O'malley, 2018). The most crucial resource that has enabled Akamae to develop unique new fashion products through consumer participation is the craftsmanship of its artisan partners (Moving-worlds, n.d.). The skills of refugee artisans are a significant resource in product design for Akamae, creating a variety of new fashion products. <Table 3> presents the results of analyzing the co-creative business model of Akamae.

Table 3. Co-creative business model of Akamae

Construct	Contents
Value proposition	- Sustainable ethical fashion products - Establish a foundation for independence of refugee communities - Transmit various cultural values
Customer segment	- Consumers interested in the independence of the refugee community - Consumers willing to buy ethical fashion products
Key activity	- Co-creation in fashion design - Co-creation through design retreat - Co-creation with communities training
Channel	- Online platform - Offline design workshop
Key partner	- Refugee artisans

3. Awaytomars

Designer Alfredo Orobio from Brazil analyzed how concepts were shared on social internet networks in 2014, and he established Awaytomars with the expectation that high-quality fashion products could be created through co-work (Warner, 2020). With the objectives of fashion, co-creation, innovation, and profit sharing, Awaytomars, which began as a research project at the University of Lisbon, Portugal, officially launched its business in London, England, in 2016 (Bujor et al., 2017).

Awaytomars uses co-creation as a method for open innovation and is engaging high fashion to engage customers. They engage consumers with high fashion involvement in the process of developing new fashion products and further improve their capabilities (Bujor et al., 2017). Awaytomars' ultimate goal is to alter what fashion design means to people, the process of designing innovative fashion product, the manner in which fashion companies interact with people, and the manner in which consumers buy fashion products (Bujor et al., 2017). Various activists, from 16-year-olds to established artists who desire to participate in the development of new fashion products with innovative ideas, are registered on the Awaytomars online platform (Warner, 2020). Activists of Awaytomars place their ideas on an online platform, collect opinions from other participants, and perform co-designs (Rosés, 2019). Awaytomars provides various forms of support to enable activists effectively crowdsource and crowdfund on online platforms (Bujor et al., 2017). Companies

and fashion brands searching for innovative methods for expanding their businesses have partnered with Awaytomars to create capsule collections and become significant stakeholders in the company (Rosés, 2019). According to Awaytomars, “none of us are as strong as all of us”; this maxim guides the company with the innovation of a unified team built on shared values (Warner, 2020). <Table 4> presents the results of analyzing the co-creative business model of Awaytomars.

4. Nike plus (NIKE)

Nike is a multinational company based in the United States that produces sports clothing and accessories. Nike, a market leader in the sports industry, pioneered a novel approach to co-creation in 2006 when it established Nike Plus with members of the online running community (Ramaswamy, 2008; Towers, 2011; Wright, 2016). Through the Nike Plus website (nike-plus.com), Nike actively engages runners who are interested in Nike products and shares ideas on running with the online community. Additionally, it produced Nike Plus sensors, Nike ID, running shoes, and other items (Henderson, 2018; Wright, 2016).

Nike presented an immersive experience through the Experience Co-Creation (ECC) approach by giving co-creation participants a variety of running-related materials, communicating about running and forming a bond, and providing training and education on running (Ramaswamy & Gouillart, 2010). The ECC process is Nike's proposed business model to provide customers with meaningful experiences and

Table 4. Co-creative business model of Awaytomars

Construct	Contents
Value proposition	- Innovative fashion products - Present a transparent model of corporate fashion
Customer segment	- Consumers interested in participating in the development of new fashion products with innovative ideas - Consumers willing to buy innovative fashion products
Key activity	- Crowdsourcing - Crowdfunding
Channel	- Online platform
Key partner	- Fashion company

produce strategic values through interactions between customers and businesses (Ramaswamy, 2008). Participants in Nike's co-creation access various information about running and running products through the community and receive health education and running-related training from experts, and have immersive experiences on running (Wright, 2016). Participants in the Nike co-creation process used a review-writing method. Nike Plus website interactions between participants resulted in the collection of their experiences, which generated a variety of suggestions for NFPD. Additionally, Nike and the participants created a variety of goods and services through group creativity (Ramaswamy & Ozcan, 2016). Nike's connection with Apple enabled it to successfully manage the Nike Plus community. Nike and Apple connected Nike sneakers, Nike Plus sensors, and Apple iPods to promote consumer engagement (Ramaswamy, 2008). <Table 5> presents the results of analyzing the co-creative business model of Nike.

5. Adidas made for (ADIDAS)

Adolf Dassler founded the German multinational corporation Adidas, a well-known sports brand, in 1924 (Adidas, n.d.). Adidas is accelerating its transition to a direct-to-consumer-led (DTC) business to internally improve for continued growth and focus on sports, lifestyle, women, and partnerships (Salpini, 2021).

Adidas recruited runners, who were enthusiastic about creating new Adidas products, from the running

community in 2017 and introduced new products. Furthermore, the SPEEDFACTORY started the AM4 (Adidas made for) project to rapidly produce goods and at a cost-effective price. Adidas aimed to improve the running experience of participants by forming and sharing a sense of cultural immersion in running (Denny, 2020). The company developed new products with consumers who desired to participate in Adidas' activities among members of the local running community and consumers who desired to experience various running cultures (Sawyer, 2018). Moreover, the co-created products were sold to consumers who were willing to purchase limited-edition running shoes in a specific city (Sawyer, 2018). Adidas' AM4 project was executed as a co-design through cultural immersion of online communities and offline running workshops (Denny et al., 2020). Adidas initiated co-creation activities by sharing different running cultures with participants rather than simply concentrating on developing innovative new items. Moreover, Adidas has improved the inventiveness of its products through its partnership with SPEEDFACTORY. With SPEEDFACTORY's automated production system, Adidas provided customized product solutions at a rapid pace. Additionally, participants' satisfaction with the product could be increased and innovative changes could be made to the production process (Adidas, 2014). Adidas developed a prototype containing the characteristics of the city through co-creation with consumers and the developed prototype was released as a product after consumer testing through online and retail stores. AM4LDN (Adidas produced for London)

Table 5. Co-creative business model of Nike

Construct	Contents
Value proposition	- Personalized products that can enhance the running experience - Immersive experiences on running
Customer segment	- Consumers who desire to share their experience with running and Nike products - Consumers who desire to improve runner experience
Key activity	- DART model-based interaction (between Nike and runners)
Channel	- Online community - Media player - Running training (offline)
Key partner	- Apple (multinational technology company)

was the first series of items created in co-creation with customers, and it was followed by products in Paris, Los Angeles, New York, Tokyo, and Shanghai. (Preuss, 2017). <Table 6> presents the results of analyzing the co-creative business model of Adidas.

6. Filaboration (FILA)

FILA, founded in Italy in 1911, is a Korean sportswear company that manufactures and sells clothing and sports products (Yoo, 2007). The successful collaboration between Fila and other brands is referred to as “Filaboration” by consumers (Park, 2018). Through Filaboration, two unexpected brands met and augmented the design elements of each brand to present freshness and novelty to consumers (Kim, 2018). Particularly, it has improved its image as a brand enthusiastic by the 1020 generation (Park & Kim, 2020).

Up to 2020, Fila has worked with game streamers on five Filaborations, beginning with the “Fila X woowakgood Collaboration Edition” in 2018. This strategy has been successful for Fila (Jung, 2018). Fila enhances the cultural value of the game, which is positioned as an independent cultural art genre, and game streamers strengthen the collective bond within the community through this process. Fila and the game streamer co-creation was performed through design crowdsourcing and voting through online communities, Twitch and YouTube broadcasting (Jo, 2018). After the game streamer explained the co-creation

with Fila to the community they run through internet broadcasting, community members who have strong community ties submitted various product designs (International Textile Newspaper, 2018). The distinctive point about Filaboration is that a key partner, a game streamer, acts as a mediator between Fila and consumers. Fila has conducted five rounds of Filaboration and co-created with a community of 12 game streamers since August 2018. As a co-creation through the active participation of fans who have a strong bond with the game streamer, it was developed as Fila clothing, shoes, and accessories, and sold in online and retail stores; it achieved considerably high profits (Yang, 2019). <Table 7> presents the results of analyzing the co-creative business model of Fila.

The structural characteristics of the co-creative NFPD business model were articulated through case analysis of new fashion product development through consumer participation. <Table 8> presents the specific factors of the co-creative NFPD business model through six case studies.

V. Conclusion

The role of informed consumers is highlighted by the advancement of information and communication technologies. Additionally, consumers are significant stakeholders in the creation of corporate value because consumer engagement in business activities is increasing. Although studies on the subject of value creation

Table 6. Co-creative business model of Adidas

Construct	Contents
Value proposition	<ul style="list-style-type: none"> - Limited-edition running product in a specific city - Create and share cultural immersion in running - Improve running experience
Customer segment	<ul style="list-style-type: none"> - Consumers who desire to participate in brand activities - Consumers interested in experiencing a diverse running culture - Consumers willing to purchase limited-edition running shoes for a particular city
Key activity	<ul style="list-style-type: none"> - Co-design
Channel	<ul style="list-style-type: none"> - Online community - Online store - Running workshop (offline) - Retail store
Key partner	<ul style="list-style-type: none"> - Speedfactory

Table 7. Co-creative business model of Fila

Construct	Contents
Value proposition	<ul style="list-style-type: none"> - Fashion products that embodies the community - Increase the cultural value of games - Strengthen community bond
Customer segment	<ul style="list-style-type: none"> - Generation 1020 who have strong game community ties - Consumers willing to buy new and unique products related to games and game streamers
Key activity	<ul style="list-style-type: none"> - Design crowdsourcing - Voting
Channel	<ul style="list-style-type: none"> - Online community - SNS (e.g., Twitch, YouTube) - Online store - Retail store
Key partner	<ul style="list-style-type: none"> - Online game streamer

Table 8. Key factors of the co-creative NFPD business model

Co-value	Co-creator	Co-activity	Co-platform	Co-partner
<ul style="list-style-type: none"> • Profits share • Innovative products • Knowledge sharing • Experience improvement • Community value • Tribal bond • Sustainable fashion 	<ul style="list-style-type: none"> • Experience-seeking type • High fashion-involvement type • Fashion innovative type • Loyal brand-consumer type 	<ul style="list-style-type: none"> • Crowdsourcing • Vote • Co-design • Review writing • Crowdfunding 	<ul style="list-style-type: none"> • Social media • Online community • Offline workshop 	<ul style="list-style-type: none"> • Creative facilitator • Participation promoter • Resource investors • Supply chain participant

through co-creation are being conducted and fashion companies are encouraging consumer participation in a variety of corporate activities, the emphasis is on enhancing consumer services or systems rather than creating new fashion products. Therefore, this study attempted to elucidate the structural characteristics of the co-creative NFPD process and to present specific factors based on this.

The components of the business model were analyzed through case studies to obtain a three-dimensional view of the co-creation NFPD process that fashion firms employ. For the case study, the activity in which a company develops a new product cooperatively with consumers is defined as a co-creative NFPD. Ten cases that satisfied the operational definition were selected. Along with five experts, the Threadless, Akamae, Awaytomars, Nike Plus, Adidas Made for, and Filaboration were selected as study subjects. The cases were analyzed based on the business model components of value proposition, target customers, key activities,

channels, and key partners to examine the structural characteristics of the selected consumer-participation-type NFPD cases from various perspectives.

Fashion companies use co-creation to meet consumer demand for unique and innovative fashion products while also increasing economic potential. To increase the chances of success during the planning stage of the new product development (NPD) process, fashion companies select co-values and co-creators that align with their brand strategy and capabilities. To produce more creative products through collective consumer creativity, fashion companies organize various co-activities. With the proliferation of digital technology and changes in the ICT environment, companies are increasing their co-creation activities through multiple channels. Co-platforms overcome the constraints of time and space in co-creation and facilitate interaction between companies and co-creators, increasing the likelihood of successful co-creative NPD. Co-partners vary according to the co-creation strategy, and

while the initial consumer-participating fashion NPD processes is aimed at personalized design development, recent co-creation also aims to develop innovative and creative products. Fashion companies collaborate with various co-partners who act as design inspiration in consumer creative activities.

Fashion brands provide co-creation participants with a variety of tangible and intangible values, including financial rewards, innovative products, and cultural immersion that offer opportunities to learn and enhance experiences. Through co-creation, fashion companies collect and converge the needs of consumers to increase the likelihood of developing successful new products. Recently, fashion companies have proposed the voluntary and active participation of consumers to promote community values and develop a sustainable fashion industry, resulting in more creative and innovative products. Co-creation activities target specific groups of consumers with common interests and similarities, with active co-creators pursuing new experiences, who are highly innovative in fashion, with a strong sense of belonging to the community or having a close emotional bond with the brand. Co-creation tasks become a common goal for participants, leading to cooperation rather than competition. Fashion companies employ a variety of co-creation activities, such as crowdsourcing, voting, co-design, review writing, and crowdfunding, to increase consumer involvement. Online and offline platforms are used strategically to facilitate relationships between brands and participants, as well as among participants. Participants engage in co-creation activities on social media or online communities, strengthening connections through communication and interaction. Fashion companies develop group creativity by collaborating with significant partners having unique expertise, including consumers, artisans, artists, and suppliers with digital technology, while participation facilitators and resource investors continuously participate in co-creation activities as co-partners of fashion companies to help increase the vitality of co-creation.

This study proposed various interaction factors with

a focus on developing innovative and creative new products by increasing consumers' participation and spontaneity. This study identified new elements of co-creation business models and altered customer-engagement strategies caused by the growth of online platforms. Using the co-creation approach established in the field of business administration to design new fashion products helped advance research on new fashion strategies and offered the foundational information for further studies. Additionally, the structural characteristics of co-creation derived from this study presented practical implications for companies that desire to develop new fashion products in a novel manner. This study could be a useful material for establishing a strategy based on a company's situation and the characteristics of a brand. The findings of this study will be useful for Korean fashion companies, which are expanding as a result of the escalating worldwide competitiveness and the maturation of the industry.

List of Abbreviations:

NPD: New Product Development

ECC: Experience Co-Creation

SNS: Social Networking Service

NPFD: New Product Fashion Development

NICPPD: No-Interval Coherently Phased Product Development

BMC: Business Model Canvas

APDP: Apparel Product Development Process

ICT: Information and Communication Technology

1. Acknowledgement

This paper is based on Jaekyong Lee's Ph.D. thesis.

2. Ethics and consent

This research was conducted under the approval and supervision of Seoul National University Institutional Review Board (IRB Approval No: 2101-001-008) regarding ethical issues including consent to participate.

3. Availability of data and materials

Not applicable

4. Conflicting interests

Not applicable

5. Funding

Not applicable

6. Authors' contributions

J., Lee conceived of the presented idea, developed the theory and performed the computations. H. J., Choo verified the analytical methods. H. J., Choo encouraged J., Lee to investigate and supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

7. Authors' information**Jaekyong Lee**

Dept. of Textiles, Merchandising and Fashion Design,
Seoul National University, Researcher

Ho Jung Choo

Dept. of Textiles, Merchandising and Fashion Design,
Seoul National University, Professor

References

- Acharya, A., Singh, S. K., Pereira, V., & Singh, P. (2018). Big data, knowledge co-creation and decision making in fashion industry. *International Journal of Information Management*, 42, 90–101. <https://doi.org/10.1016/j.ijinfomgt.2018.06.008>
- Adidas. (2017). *Adidas Launches AM4 Project in Landmark Moment for Speedfactory Facility*. <https://www.adidas-group.com/en/media/news-archive/press-releases/2017/adidas-launches-am4-project-landmark-moment-speedfactory-facilit/>
- Adidas. (n.d.). *History*. <https://www.adidas-group.com/en/about/history/>
- Amit, R., & Zott, C. (2012). Creating value through business model innovation. *MIT Sloan Management Review*, 53(3), 41–49.
- Aquilani, B., Silvestri, C., & Ruggieri, A. (2016). Sustainability, TQM and value co-creation processes: The role of critical success factors. *Sustainability*, 8(10), 995. <https://doi.org/10.3390/su8100995>
- Bendapudi, N., & Leone, R. P. (2003). Psychological implications of customer participation in co-production. *Journal of Marketing*, 67(1), 14–28. <https://doi.org/10.1509/jmkg.67.1.14.18592>
- Black-Paulick, A. (2017). *The magic woman of Huay Pu Keng*. Rank&File. <https://rankandfilemag.com/issue-5/ways-of-change/>
- Bocchieri, C. (n.d.). #MeetTheMB100 – Cara Bocchieri, Founder, Akamae. Meaningful Business. <https://www.meaningfulbusiness/meetthemb100-2020-cara-bocchieri-founder-akamae/>
- Bujor, A., Avasilcai, S., & Alexa, L. (2017). Co-creation in fashion industry: The case of Awaytomars. *Annals of the University of Oradea, Fascicle of Management and Technological Engineering*, 3, 22–25. https://www.researchgate.net/profile/Adriana-Bujor/publication/327338350_CO-CREATION_IN_FASHION_INDUSTRY_THE_CASE_OF_AWAYTOMARS/links/5b88fc1aa6fdcc5f8b734542/CO-CREATION-IN-FASHION-INDUSTRY-THE-CASE-OF-AWAYTOMARS.pdf
- Burns, L. D., & Bryant, N. O. (2007). *The business of fashion: Designing, manufacturing, and marketing* (3rd ed.). Fairchild Publications.
- Chesbrough, H. W. (2003). *Open innovation: The new imperative for creating and profiting from technology*. Harvard Business Press.
- Choi, E., Ko, E., & Kim, A. J. (2016). Explaining and predicting purchase intentions following luxury-fashion brand value co-creation encounters. *Journal of Business Research*, 69(12), 5827–5832. <https://doi.org/10.1016/j.jbusres.2016.04.180>
- Cooper, R. G. (1979). The dimensions of industrial new product success and failure. *Journal of Marketing*, 43(3), 93–103. <https://doi.org/10.1177/002224297904300310>
- Cooper, R. G. (1983a). A process model for industrial new product development. *IEEE Transactions on Engineering Management*, 30(1), 2–11. <https://doi.org/10.1109/TEM.1983.6448637>
- Cooper, R. G. (1983b). The new product process: An empirically-based classification scheme. *R&D Management*, 13(1), 1–13. <https://doi.org/10.1111/j.1467-9310.1983.tb01124.x>
- Cooper, R. G., & Kleinschmidt, E. J. (1993). Major new products: What distinguishes the winners in the chemical industry? *Journal of Product Innovation Management*, 10(2), 90–111. [https://doi.org/10.1016/0737-6782\(93\)90002-8](https://doi.org/10.1016/0737-6782(93)90002-8)
- Czepiel, J. A. (1990). Service encounters and service relationships: Implications for research. *Journal of Business Research*, 20(1), 13–21. [https://doi.org/10.1016/0148-2963\(90\)90038-F](https://doi.org/10.1016/0148-2963(90)90038-F)
- Denny, S. (2020, November 20). *How Adidas Approaches Co-Creation by 'Swimming in the Culture'*. Inc. <https://www.inc.com/stephen-denny/how-adidas-approaches-co-creation-by-swimming-in-culture.html>
- Denny, S., Leinberger, P., & Solis, B. (2020). *Unfiltered marketing: 5 Rules to win back trust, credibility, and customers in a digitally distracted world*. Career Press.
- Fedorenko, I., & Berthon, P. (2017). Beyond the expected be-

- nefits: unpacking value co-creation in crowdsourcing business models. *AMS Review*, 7(3), 183–194. <https://doi.org/10.1007/s13162-017-0106-7>
- Fernando. (2017, March 25). *Ways of Change – an ethical fashion brand*. FerWay Designs. <https://ferwaydesigns.com/ways-of-change/>
- Park, S. (2018, April 20). 휠라, 8개국 47개 브랜드 연합 ‘역대급 콜라보’로 휠라보레이션 열풍 잇는다 [Fila, a combination of 47 brands from 8 countries, is continuing the Fila collaboration craze]. *Financial News*. <https://www.fnnews.com/news/201804200922076654>
- Frow, P., Nenonen, S., Payne, A., & Storbacka, K. (2015). Managing co-creation design: A strategic approach to innovation. *British Journal of Management*, 26(3), 463–483. <https://doi.org/10.1111/1467-8551.12087>
- Füller, J., Mühlbacher, H., Matzler, K., & Jawecki, G. (2009). Consumer empowerment through internet-based co-creation. *Journal of Management Information Systems*, 26(3), 71–102. <https://doi.org/10.2753/mis0742-1222260303>
- Fuad-Luke, A. (2009). *Design activism: Beautiful strangeness for a sustainable world*. Earthscan.
- Gassmann, O. (2006). Opening up the innovation process: Towards an agenda. *R&D Management*, 36(3), 223–228. <https://doi.org/10.1111/j.1467-9310.2006.00437.x>
- Gembariski, P. C., & Lachmayer, R. (2017). Designing customer co-creation: Business models and co-design activities. *International Journal of Industrial Engineering and Management*, 8(3), 121–130. http://ijiemjournal.uns.ac.rs/images/journal/volume8/03_IJEM_2017_Gembariski.pdf
- Hailey, N. (2017, March 27). Floortje naar het einde van de wereld interview met Cara Bocchieri van ways of change [Floortje to the end of the world | interview with Cara Bocchieri of ways of change]. *By Hailey*. <https://byhailey.nl/ways-of-change/>
- Henderson, K. (2018, January 19). *Nike: Co-Creation*. Prezi. <https://prezi.com/pkcyrw8iruaz/nike-co-creation/>
- Hoyer, W. D., Chandy, R., Dorotic, M., Krafft, M., & Singh, S. S. (2010). Consumer cocreation in new product development. *Journal of Service Research*, 13(3), 283–296. <https://doi.org/10.1177/1094670510375604>
- International Textile Newspaper. (2018, August 8). 휠라, 게임 스트리머 ‘우왁굳’과 콜라보 에디션 출시 [Fila launches collaboration edition with game streamer ‘Wowakgood’]. *International Textile Newspaper*. <http://www.itnk.co.kr/news/articleView.html?idxno=57945>
- Jo, D. (2018, August 6). 휠라, 게임 스트리머 ‘우왁굳’과 협업 ...1020 ‘취향저격’ [Fila collaborates with game streamer ‘Wowakgood’ ...1020 ‘My Style’]. *Korea Textile Newspaper*. <https://www.ktnews.com/news/articleView.html?idxno=107955>
- Jung, H. (2018, August 7). ‘최악 폭염’도 못 말린 밤샘 노숙... 휠라보레이션이 뭐길래 [Even the worst heat wave, homeless overnight...What's Filaboration]. *Korea Economy Newspaper*. <https://www.hankyung.com/economy/article/201808077407g>
- Kalaignanam, K., & Varadarajan, R. (2006). Customers as coproducers: Implications for marketing strategy effectiveness and marketing operations efficiency. In R. F. Lusch, & S. L. Vargo (Eds.), *The service dominant logic of marketing: Dialog, debate and directions* (pp. 166–179). Routledge.
- Kambil, A., Ginsberg, A., & Bloch, M. (1996). *Re-inventing value propositions*. New York University. <http://hdl.handle.net/2451/14205>
- Katz, J.E., & Sugiyama, S. (2005). Mobile phones as fashion statements: The co-creation of mobile communication's public meaning. In R. Ling, & P. E. Pedersen (Eds.), *Mobile communications: Computer supported cooperative work* (pp. 63–81). Springer. https://doi.org/10.1007/1-84628-248-9_5
- Keiser, S. J., Vandermar, D. A., & Garner, M. B. (2017). *Beyond design: The synergy of apparel product development* (4th ed.). Bloomsbury Publishing.
- Kim, J. (2018, Decemver 3). 빅데이터로 분석한 2018년 패션 산업 10대 뉴스 [Top 10 fashion industry news in 2018 analyzed with big data]. *Fashion Seoul*. <https://fashionseoul.com/163132>
- Kim, Y. J., Rha, J. Y., & Lee, Y. (2015). ICT development and customer participation in fashion industry-case studies using value co-creation of business model. *Fashion & Textile Research Journal*, 17(6), 907–918. <https://doi.org/10.5805/SFTI.2015.17.6.907>
- Kohler, T. (2015). Crowdsourcing-based business models: How to create and capture value. *California Management Review*, 57(4), 63–84. <https://doi.org/10.1525/cmr.2015.57.4.63>
- Koo, H. G., & Rha, J. Y. (2012). How can we facilitate co-creation of value?: Findings from expert panel interviews. *Journal of Consumption Culture*, 15(3), 159–186. <https://doi.org/10.17053/jcc.2012.15.3.008>
- Korea Federation of Textiles Industries. (2020). *2020 FW research analysis & 2020 SS market scale: The second half year statistic report*. <https://www.fashionnet.or.kr/research-report/20354/>
- Kunz, G. I. (2010). *Merchandising: Theory, principles, and practice* (3rd ed.). Fairchild Books.
- Lawton, J. (2006, December 11). *Web T-Shirt Company Builds a Community*. *Business*. npr. <https://www.npr.org/2006/12/11/6607681/web-t-shirt-company-builds-a-community-business>
- Lee, Y. (2004). Fashion and basic apparel goods in merchandising process (Part 2) planning, production, and present-

- tation. *Journal of the Korean Society of Clothing and Textile*, 28(7), 904–912.
- Maidique, M. A., & Zirger, B. J. (1984). A study of success and failure in product innovation: The case of the U.S. electronics industry. *IEEE Transactions on Engineering Management*, 31(4), 192–203. <https://doi.org/10.1109/TEM.1984.6447537>
- Massa, L., & Tucci, C. L. (2013). Business model innovation. In M. Dodgson, D. Gann, & N. Phillips (Eds.), *The oxford handbook of innovation management* (Vol. 20, pp. 420–441). Oxford University Press.
- May-Plumlee, T., & Little, T. J. (1998). No-interval coherently phased product development model for apparel. *International Journal of Clothing Science and Technology*, 10(5), 342–364. <https://doi.org/10.1108/09556229810239333>
- Moretti, I. C., & Braghini Junior, A. (2017). Reference model for apparel product development. *Independent Journal of Management & Production*, 8(1), 232–262. <https://doi.org/10.14807/ijmp.v8i1.538>
- Movingworlds. (n.d.). Akamae: A For-profit with social mission. <https://movingworlds.org/organization/617>
- Nambisan, S. (2003). Information systems as a reference discipline for new product development. *MIS Quarterly*, 27(1), 1–18. <https://doi.org/10.2307/30036517>
- Nononen, S., & Storbacka, K. (2010). Business model design: Conceptualizing networked value co-creation. *International Journal of Quality and Service Sciences*, 2(1), 43–59. <https://doi.org/10.1108/17566691011026595>
- Ng, I., & Briscoe, G. (2012). Value, variety and viability: New business models for co-creation in outcome-based contracts. *International Journal of Service Science, Management, Engineering, and Technology*, 3(3), 26–48. <https://doi.org/10.4018/jssmet.2012070103>
- Nickell, J., & Kalmikoff, J. (2010). *Threadless: Ten years of t-shirts from the world's most inspiring online art community*. Abrams Image.
- O'malley, M. (2018, October 23). How Akamae uses fashion co-creation to support refugee communities. *Eco Warrior Princess*. <https://ecowarriorprincess.net/2018/10/how-akamae-uses-fashion-co-creation-support-refugee-communities/>
- O'Hern, M. S., & Rindfleisch, A. (2010). Customer co-creation: A typology and research agenda. *Review of marketing research*, 6(1), 84–106. https://www.researchgate.net/profile/Matt-Ohern/publication/269102680_Customer_Co-Creation/links/548083120cf263ee1adf994f/Customer-Co-Creation.pdf
- Osterwalder, A., Pigneur, Y., & Clark, T. (2010). *Business model generation: A handbook for visionaries, game changers, and challengers*. John Wiley & Sons.
- Parker-Strak, R., Barnes, L., Studd, R., & Doyle, S. (2020). Disruptive product development for online fast fashion retailers. *Journal of Fashion Marketing and Management*, 24(3), 517–532. <https://doi.org/10.1108/jfmm-08-2019-0170>
- Pralhalad, C. K., & Ramaswamy, V. (2000). Co-opting customer competence. *Harvard Business Review*, 78(1), 79–87.
- Pralhalad, C. K., & Ramaswamy, V. (2004a). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, 18(3), 5–14. <https://doi.org/10.1002/di.r.20015>
- Pralhalad, C. K., & Ramaswamy, V. (2004b). *The future of competition: Co-creating unique value with customers*. Harvard Business School Press.
- Park, H., & Lee, J. (2018). 한국 패션의류산업의 구조고도화 전략 [Structural improvement strategies of the fashion clothing industry in Korea]. Korea Institute for Industrial Economics & Trade. <https://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE11117791>
- Park, H., & Kim, S.-I. (2020). A case study on design collaboration marketing in Korean cross-business. *Journal of Digital Convergence*, 18(5), 383–389. <https://doi.org/10.14400/JDC.2020.18.5.383>
- Preuss, A. (2017, October 23). In pictures: Adidas' first Speedfactory collection AM4. *FASHION UNITED*. <https://fashionunited.com/news/fashion/in-pictures-adidas-first-speedfactory-collection-am4/2017102317951>
- Qi, Y., Wang, X., Li, Y., Zhang, G., & Jin, H. (2021). The effects of inter-organizational compatibility on knowledge transfer in cross-border M&As. *Management Decision*, 59(9), 2123–2142. <https://doi.org/10.1108/MD-03-2020-0349>
- Ramaswamy, V. (2008). Co-creating value through customers' experiences: The Nike case. *Strategy & Leadership*, 36(5), 9–14. <https://doi.org/10.1108/10878570810902068>
- Ramaswamy, V. (2011). It's about human experiences... and beyond, to co-creation. *Industrial Marketing Management*, 40(2), 195–196. <https://doi.org/10.1016/j.indmarman.2010.06.030>
- Ramaswamy, V., & Gouillart, F. (2010). *The power of co-creation: Build it with them to boost growth, productivity, and profits*. Simon and Schuster.
- Ramaswamy, V., & Ozcan, K. (2016). Brand value co-creation in a digitalized world: An integrative framework and research implications. *International Journal of Research in Marketing*, 33(1), 93–106. <https://doi.org/10.1016/j.ijresmar.2015.07.001>
- Robey, T. E. (2017, November 6). *What Happened to the Internet's Favorite T-Shirt Company? RACKED*. <https://www.racked.com/2017/11/6/16551468/threadless-t-shirts-ecommerce>
- Rosés, M. (2019, January 29). *Awaytomars Collaboration as*

- innovation. Metal. <https://metalmagazine.eu/en/post/interview/awaytomars-collaboration-as-innovation>
- Rozenfeld, H., Forcellini, F., Amaral, D., Toledo, J., Silva, S., Alliprandini, D., & Scalice, R. (2006). *Product development management: A reference for process improvement*. São Paulo: Saraiva. http://mtc-m16b.sid.inpe.br/col/sid.inpe.br/mtc-m17@80/2007/08.03.15.49/doc/henrique_rozenfeld.pdf
- Salpini, C. (2021, March 11). Adidas aims for DTC to be 50% of sales by 2025. *Retail Dive*. <https://www.retaildive.com/news/adidas-aims-for-dtc-to-be-50-of-sales-by-2025/596509/>
- Sanders, E. B.-N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *CoDesign*, 4(1), 5–18. <https://doi.org/10.1080/15710880701875068>
- Sawyer, J. (2018, December 4). *Adidas Taps NYC & LA Creators for Speedfactory AM4 Sneakers*. Highsnobiety. <https://hypebeast.com/2018/12/adidas-speedfactory-am4-nyc-la-release-details>
- Sipress, A. (2007, January 18). T-Shirt maker's style, drawn from web users. *Washington Post*. <https://www.washingtonpost.com/wp-dyn/content/article/2007/06/17/AR2007061701350.html>
- Silva, R. J., & Rupasinghe, T. (2016). Characterization of new product development (NPD) models applicable to enhance the overall performance of the apparel industry. *International Journal of Textile and Fashion Technology*, 6(3), 1–14. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2838803
- Soley, A. (2015, October 29). *Threadless: The Continuing Success of one of the older Crowdsourcing companies*. Digital Innovation and Transformation. <https://d3.harvard.edu/platform-digit/submission/threadless-the-continuing-success-of-one-of-the-older-crowdsourcing-companies/>
- Stern, S., & Porter, M. E. (2001). Innovation: Location matters. *MIT Sloan Management Review*, 42(4), 28. http://snu-prim.o.hosted.exlibrisgroup.com/82SNU:TN_cdi_proquest_journals_224961501
- Threadless. (n.d.-a). Our values. <https://www.threadless.com/values/>
- Threadless. (n.d.-b). Design challenges. <https://www.threadless.com/make/submit/>
- Towers, S. (2011, November 28). Nike's co-dependency with its customers means business. *Forbes*. <https://www.forbes.com/sites/infosys/2011/11/28/co-creation/?sh=3498ca152ead>
- Tran, Y., Hsuan, J., & Mahnke, V. (2011). How do innovation intermediaries add value? Insight from new product development in fashion markets. *R&D Management*, 41(1), 80–91. <https://doi.org/10.1111/j.1467-9310.2010.00628.x>
- Warner, B. (2020, December 2). *Democratic design – but make it fashion Awaytomars*. Atlas of the Future. <https://atlasofthefuture.org/project/awaytomars/>
- Wendy. (2017, October 28). *Cara geloof in de menselijke verbinding*. <https://www.wendyonline.nl/cara-geloof-in-de-menselijke-verbinding/>
- Wickett, J. L., Gaskill, L. R., & Damhorst, M. L. (1999). Apparel retail product development: Model testing and expansion. *Clothing and Textiles Research Journal*, 17(1), 21–35. <https://doi.org/10.1177/0887302X9901700103>
- Wright, A. (2016, March 14). *Nike: Facilitating customer experience to co-create value*. Marketing Discussion. <https://marketingdiscussions.wordpress.com/2016/03/14/nike-facilitating-customer-experience-to-co-create-value/>
- Yang, S. (2019, November 14). 휠라X게임 유튜버 컬래버 라인 출시, 신개념 ‘휠라보레이션’ [Fila X Game YouTuber collaboration line launched, new concept ‘Filaboration’]. *Single List*. <http://www.slist.kr/news/articleView.html?idxno=114434>
- Yimin, D. (2019, July 20). July remake-approved brands: summer ready. *remark*. <https://remark.world/stories/july-remake-approved-brands-summer-ready/>
- Yoo, S. (2007, April 11). 꼬리가 몸통 삼킨 ‘휠라’, “신화 다시 쓴다” [Fila, whose tail swallowed its body, “Write legend again”]. *Money Today*. <https://news.mt.co.kr/mtview.php?no=2007041112404165602&outlink=1&ref=https%3A%2F%2Fko.wikipedia.org>
- Zhang, H., & Ma, Z. (2022). Is my design better? A co-creation perspective for online fashion design. *Journal of Research in Interactive Marketing*, 16(3), 384–402. <https://doi.org/10.1108/JRIM-05-2021-0132>