

Product Design Innovation Based on Privet's Customer Preferences

Krisnayanti Aditasari¹, Rahmatsyam Lakoro², Reny Nadlifatin³, Jian Karisawati⁴

^{1,4}Department of Digital Business, Telkom University

²Department of Visual Communication Design, Institut Teknologi Sepuluh Nopember

³Department of Information System, Institut Teknologi Sepuluh Nopember
e-mail: krisnaaditasari@telkomuniversity.ac.id

Abstract

The footwear industry in Indonesia grew along with Indonesia's economic development that occurred in the early 1980s. The development of the footwear industry is also supported by the role of the government with various facilities provided to MSMEs. The local brand is currently growing, one of which is women's footwear products. Product consistency and innovation are important factors in enlarging the brand in the local and international markets. Privet is a business that manufactures women's footwear since 2018. This business was born in a class New Venture Creation at Business Management ITS. The problem of product innovation at Privet is how to produce products based on customer preferences. This research uses the five stages of the design thinking model proposed by the Hasso-Plattner Design Institute at Stanford, namely empathize, define, ideate, prototype, and test. Tests were carried out using the Capture Matrix and Net Promoter Score (NPS). From this research, it was found that the factors of customer preference in buying footwear are comfort, design, and product value. Therefore, it is recommended to create products innovation in shoes, slippers, and sandals category based on customer.

Keywords: *Footwear, Local Brand, Privet, Product Innovation, Design Thinking*

INTRODUCTION

The footwear industry in Indonesia grew in line with Indonesia's economic development that occurred in the early 1980s. The development of the footwear industry is also supported by the government's role with the various facilities provided to MSME actors today. From world footwear data (APICCAPS) there are the 10 largest producers of footwear including China, India, Vietnam, Brazil, Indonesia, Pakistan, Turkey, Bangladesh, Mexico and Italy which are responsible for nearly 90% of the world's footwear needs (Judianto & Hapsari, 2018).

Innovation is the key to success in facing an increasingly open economic globalization. In fact, the number of MSMEs that can enter the international arena is still relatively low. This is in accordance with data owned by the Coordinating Ministry for Economic Affairs of the Republic of Indonesia that the export capability of MSMEs is still limited, which is only around 15.65% of the total existing exports (Limanseto, 2021). Therefore MSME actors must be able to strive to increase product competitiveness by being more creative and innovative in developing new products.

Privet is a footwear industry that was established in 2018. This business was born from a course in ITS Business Management, namely New Venture Creation. Various series have been released by Privet with a wide selection of footwear types ranging from shoes, slippers, and sandals. Based on the current conditions, Privet intends to be able to increase product competitiveness by referring to customer preferences. This is because in the end only products that are in accordance with customer wishes will make these products more quickly accepted by the market. In addition, in carrying out product development it was only limited to the internal ideation process by the Privet designer team which did not have specific standards in carrying out product development. Therefore, having a customer preference parameter in buying footwear will make it easier for the designer team to design products in the future (Rahmadanti, 2021).

In a study conducted by Tian et al. (2021) aims to propose a footwear design framework for the elderly in China that contributes to the design of user-placed literature by hiding a logical and comprehensive design flow. In this study, findings related to visual elements as a limitation of footwear product designs. Visual elements are elements that can usually be directly processed by the user in his perceptual cognition. These elements are divided into two, namely aesthetic requirements which include lines, colors, materials, shapes and decorations, and functional requirements which include anti-slip, waterproof and shock absorbent.

The research conducted by Putriyias (2016) aims to reveal the role of consumer preferences on performance and non-performance attributes in lifestyle shoes using several respondents spread across the Netherlands, Indonesia, Australia, Malaysia, and Italy. The results of this study are divided into 2 attributes, namely performance and non-performance attributes, where the results obtained are performance attributes which include cushioning, stability, and shoe weight have a significant effect, while non-performance attributes such as price and image use also have a significant effect. However, the design of shoe packaging in this research does not affect consumer preferences (Putriyias, 2016).

Kurniawan et al. (2019) researched creating product development at the Soul Sepatu startup. The research was conducted using the design thinking method. The results of this study are in the form of new product design proposals for local businesses. In this study, it is known that the application of design thinking can help the success of business in product development.

The research conducted by (Salame (2020) examines the perception of design thinking in influencing the responsible behavior of fashion brand designers by conducting in-depth and exploratory interviews. Knowing the characteristics of design thinking helps in increasing the social sustainability of brands in the fashion industry. This research is based on the assumption that design and sustainability need each other. Therefore, applying design thinking throughout the process of creating a new product helps to sustain and achieve better things going forward. In addition, design thinking provides great support for creating empathetic, relevant, and flexible solutions.

Furthermore, research conducted by Alcantra et al. (2005) aims to present the application of differential semantics to compose the semantic space of casual shoes. From this research, a result is obtained, namely the comfort and quality that is felt or felt independently by the user.

This research uses the five stages of the design thinking model proposed by the Hasso-Plattner Design Institute at Stanford, namely empathize, define, ideate, prototype, and test. Tests were carried out using the Feedback Capture Matrix and Net Promoter Score (NPS). From this research, it was found that the factors of customer preference in buying footwear are comfort, design, and product value. Then create three innovations for Privet footwear products based on categories, such as shoes, slippers, and sandals with consideration to customer preference factors.

In a study conducted by Tian et al. (2021) aims to propose a footwear design framework for the elderly in China that contributes to the design of user-placed literature by hiding a logical and comprehensive design flow. In this study, findings related to visual elements as a limitation of footwear product designs. Visual elements are elements that can usually be directly processed by the user in his perceptual cognition. These elements are divided into two, namely aesthetic requirements which include lines, colors, materials, shapes and decorations, and functional requirements which include anti-slip, waterproof and shock absorbent.

The research conducted by Putriyias (2016) aims to reveal the role of consumer preferences on performance and non-performance attributes in lifestyle shoes using several respondents spread across the Netherlands, Indonesia, Australia, Malaysia, and Italy. The results of this study are divided into 2 attributes, namely performance and non-performance attributes, where the results obtained are performance attributes which include cushioning, stability, and shoe weight have a significant effect, while non-performance attributes such as price and image use also have a significant effect. However, the design of shoe packaging in this research does not affect consumer preferences (Putriyias, 2016).

Kurniawan et al. (2019) researched creating product development at the Soul Sepatu startup. The research was conducted using the design thinking method. The results of this study are in the form of new product design proposals for local businesses. In this study, it is known that the application of design thinking can help the success of business in product development.

The research conducted by (Salame (2020) examines the perception of design thinking in influencing the responsible behavior of fashion brand designers by conducting in-depth and exploratory interviews. Knowing the characteristics of design thinking helps in increasing the social sustainability of brands in the fashion industry. This research is based on the assumption that design and sustainability need each other. Therefore, applying design thinking throughout the process of creating a new product helps to sustain and achieve better things going forward. In addition, design thinking provides great support for creating empathetic, relevant, and flexible solutions.

Furthermore, research conducted by Alcantra et al. (2005) aims to present the application of differential semantics to compose the semantic space of casual shoes. From this research, a result is obtained, namely the comfort and quality that is felt or felt independently by the user.

METHODS

This study used the five stages of the design thinking model proposed by the Hasso-Plattner Design Institute at Stanford, namely empathize, define, ideate, prototype, and test (Plattner, 2010). This model is used because it can be a reliable framework for designing something that is customized based on customer preferences, which in this case describes product design innovation proposals for the Privet footwear industry.

Participants

Ten women participated in this study consisting of two criteria, namely non-Privet customers and Privet customers. The ratio of respondents based on criteria is 80% non-Privet customers and 20% Privet customers. This percentage based on the Pareto principle, namely the 80/20 principle. The age range of the respondents is 20-35 years. Then five respondents consisting of one expert and four customers became respondents during the test.

Instruments

Figma, digital rough sketch, google form, prototype, feedback capture matrix, Net Promoter Score (NPS), and mobile devices were used for this research. For in-depth interviews, interviews are conducted online via the zoom platform. The overall duration of the interview was 20 hours 45 minutes with the average time of each respondent being 90 minutes. Then for testing 3 respondents were tested offline and 2 other participants were tested online via the zoom platform.

Procedures

The stages of in-depth interviews with 10 respondents began with brief introductions and explaining the purpose of the interviews, then asking for permission to conduct a recording and documentation session during the interview. Furthermore, the resource person was given a brief explanation regarding the matters explored in the interview, then the resource person was given questions according to the question indicators that had been prepared. After a series of questions have been answered, the interview process is closed by saying thank you because the respondent has taken the time to be interviewed. Furthermore, for the testing phase, 5 respondents tried to directly prototype 3 products, namely shoes, slippers, and sandals while providing feedback using the feedback capture matrix instrument. Furthermore, respondents were asked to provide an assessment according to the indicators tested on the Net Promoter Score (NPS) form that had been prepared.

RESULTS

Customer Preferences

In knowing customer preferences in buying footwear, what was done was to conduct in-depth interviews with 10 respondents. The results of the in-depth interviews were recapitulated based on the categories of questions asked, then the results were obtained which could be grouped into the form of affinity diagrams to determine the factors that influence customers in buying footwear. An affinity diagram is a collection of data that is arranged in certain groups or themes based on the relationship between data (Dam & Siang, 2022). The data obtained from the interview results were divided into 2 groups of affinity diagrams according to the type of respondent, namely affinity diagrams for Privet footwear customers and affinity diagrams for non-customers of Privet footwear. From the grouping of affinity diagrams that have been done, three parameters of customer preference are obtained, namely convenience, beauty, and product value. Based on the results that are customer preference parameters that will be used in designing Privet product design innovations, where three factors exist in customer preferences, namely 1) convenience to provide a sense of comfort when used by customers, 2) design to increase customer confidence, and 3) product value to give an impression or a different value from the product offered to customers.

Empathize

The first stage in the data processing process in this study begins with the initial stages of design thinking, namely empathizing or empathizing with potential customers to design innovative footwear designs based on customer preferences. The process involved is observing what users do and how they interact with footwear, giving clues about what they think and feel, and learn about what they need. The user persona in this study aims to describe a fictional character from each prospective customer as a basis or description for designing footwear designs based on customer preferences.

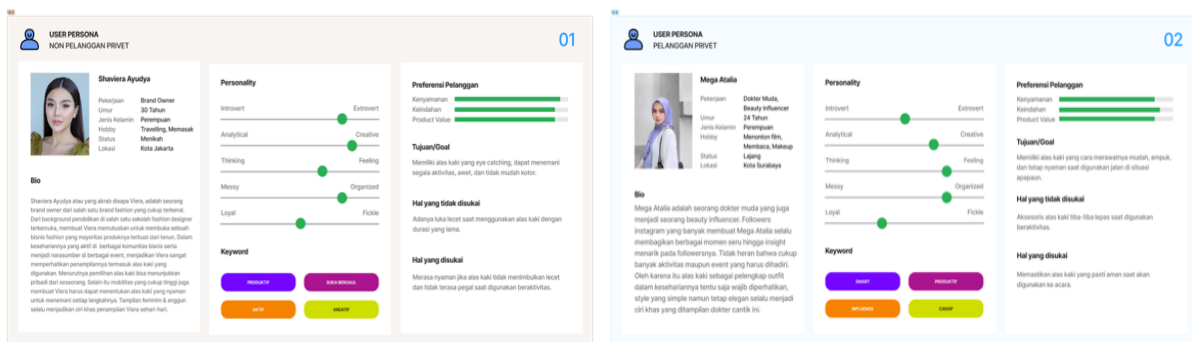


Figure 1. User Persona a) Non-Privet Customers; b) Privet Customers

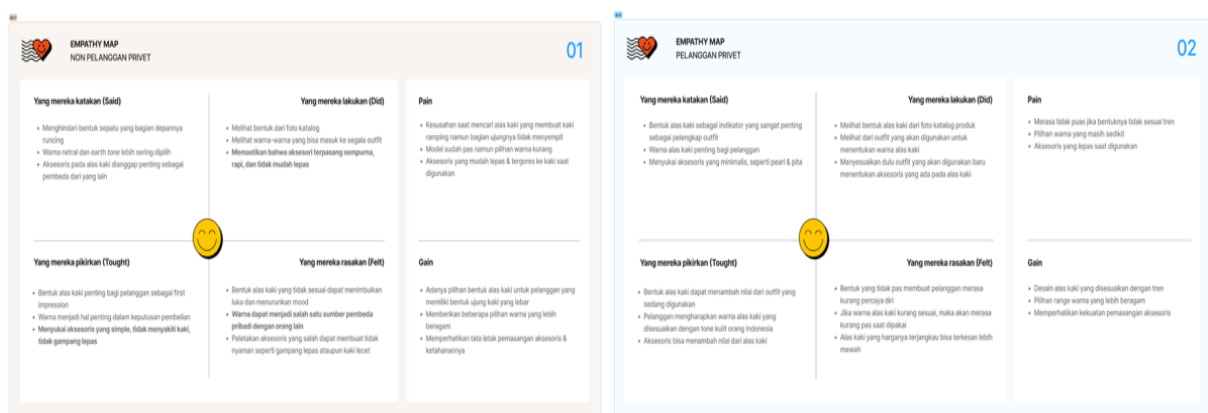


Figure 2. Empathy map a) Non-Privet Customers; b) Privet Customers

Overall, users consider several things that need to be considered, namely that customers consider the shape of footwear important because in addition to affecting

appearance, it can also affect comfort when used. In addition, customers also still feel the lack of neatness and strength of the product and the installation of accessories that are not strong enough so that they are easily separated when used.

Processing the interview results into the customer journey map which in this study is used to help determine the focus point of customer needs in the design of Privet footwear design innovations. The customer journey maps in this study are divided into two categories, namely non-Privet customer journey maps and Privet customer journey maps. The description of the two customer journey maps is as follows.

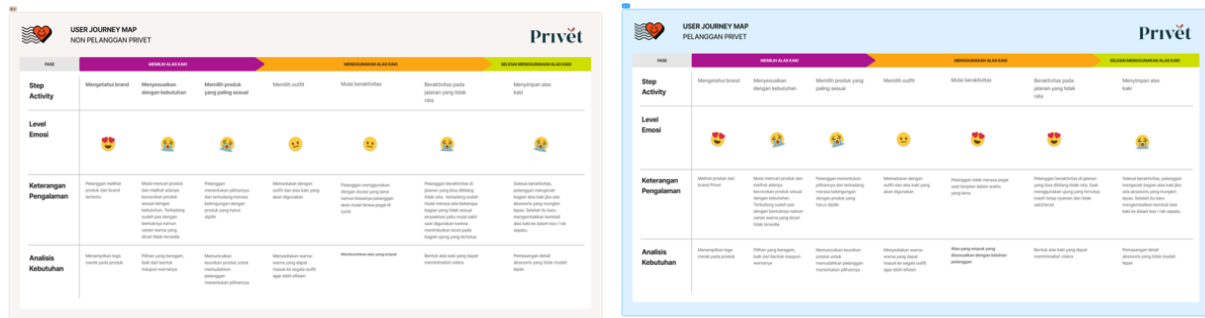


Figure 3. User Journey Map a) Non-Privet Customers; b) Privet Customers

Based on Figure 3, the results of the user journey map above show similarities and differences that arise in the emotional level phases felt by each customer. The stages of the user journey map aim to compile a customer scenario when choosing a product. So that at this stage the designer team can understand and know which part of the customer's needs will be more focused on designing an innovative Privet footwear design.

Define

In this process knowing how to determine the problem by focusing on specific users based on their needs. The process of determining the problem is done by defining the problem based on the Point of View (PoV) Analysis obtained from the empathy map synthesis of each category. Based on the PoV Analysis that has been carried out from the two categories, the results obtained are seven needs and insights that have similarities between the two categories, such as requiring a more diverse product to be adjusted based on needs, the uniqueness of the product, the choice of colors that can be Goes into all outfits, soft base, shapes that can minimize injury, as well as installation of detailed accessories that don't come off easily. This PoV Analysis was then converted into a problem statement as outlined in the Madlib PoV and How Might We (HMW) Question, which then concluded the HMW Question from the two categories to be processed at the next stage, namely as follows.

1. How can we provide diversified products?
2. How can we display the uniqueness of a product?
3. How can we provide products that can be used in various outfits?
4. How can we provide a soft base for a product?
5. How can we provide a product shape that can prevent injury?
6. How can we provide accessories which can be installed firmly?

Ideate

The ideate stage is a process for creating various design alternatives that aim to explore a wide range of solutions and various ideas from the ideas of a team of designers who have different scientific backgrounds. At the ideate stage, a brainstorming process is carried out, and then the results of this brainstorming are described on a post-it board. The results of the brainstorming of researchers obtained from answering the conclusions of the HMW Question in the define stage were 49 ideas. From the results of the brainstorming, several innovation recommendations were found and curated that could be implemented in Privet footwear design innovations. The recommendation findings from this stage are divided into

three aspects based on customer preferences which include comfort, beauty, and product value.

Prototype

The Prototype design is done in a participatory manner. After making the digital rough sketch as shown in Figure 4, then have done the A/B testing process. A/B testing is carried out aiming to narrow down the most appropriate design from each category for further user testing stages. So that from several design alternatives that was made, 3 types of products were selected from each category which was processed to become physical prototypes ready to be tested as shown in Figure 5.



Figure 4. Rough Sketch Digital



Figure 5. Final Prototype a) Shoe Category; b) Slipper Category; c) Sandal Category

Test

The testing process is carried out offline and online according to the time availability of the users involved in this process. Both offline and online testing use final prototypes that can be seen and tried directly by respondents. Conducting interviews with respondents using the feedback capture matrix to be able to see the things contained in the quadrants in the feedback capture matrix. Furthermore, after the interview process was completed, respondents were asked to fill out the Net Promoter Score (NPS) form that had been prepared to provide an assessment according to the indicators tested on the NPS formula. The two methods used in this test were differentiated according to the type of respondent, namely the cognitive walkthrough method for 1 expert and the usability testing method aimed at 5 users in prototype testing. Overall the evaluators liked the Privet footwear design in which the evaluator mentioned the order of assessment for each category, namely the first order was given to the designs in the sandal category, then the second order was the design in the slipper category, and the last order was the design in the shoe category. The sequence of these designs is based on the evaluator's tendency to choose the category of footwear that is frequently used and the details displayed in each design, starting from the selection of raw materials, the combination of choosing fabrics and accessories, as well as details of tidiness and comfort. Then based on the results of feedback from users who like designs that are considered modern and show a feminine style, besides that the combination of material selection makes the product seem unique and not monotonous. The user also said that choosing the right color is considered to be able to make the skin bright when used and choosing the right accessories and the product feels comfortable when used.

Furthermore, the results of the NPS score in measuring customer preference parameters are shown in Table 1-3.

Table 1. Shoe NPS Score

No	Indicator	Detractors (Total Detractors/ Total Respondents x100)	Passive (Total Passive/Total Respondents x100)	Promoters (Total Promoters/ Total Respondents x100)	NPS (Promoters- Detractors)
1	Cosiness (Shoes can provide a sense of comfort when used)	0	33,33	66,67	66,67
2	Fineness (Shoes can increase self confidence)	0	33,33	66,67	66,67
3	Product Value (Shoes have given a different impression)	0	33,33	66,67	66,67

4	Recommend Products to Others (On a score of 1-10 how likely are you to recommend to others such as colleagues, friends, relatives, etc.)	0	16,67	83,33	83,33
---	--	---	-------	-------	-------

Table 2. Slipper NPS Score

No	Indicator	Detractors (Total Detractors/ Total Respondents x100)	Passive (Total Passive/Total Respondents x100)	Promoters (Total Promoters/ Total Respondents x100)	NPS (Promoters - Detractors)
1	Cosiness (Slipper can provide a sense of comfort when used)	0	33,33	66,67	66,67
2	Fineness (Slipper can increase self-confidence)	0	33,33	66,67	66,67
3	Product Value (Slipper have given a different impression)	0	16,67	83,33	83,33
4	Recommend Products to Others (On a score of 1-10 how likely are you to recommend to others such as colleagues, friends, relatives, etc.)	0	16,67	83,33	83,33

Table 3. Sandal NPS Score

No	Indicator	Detractors (Total Detractors/ Total Respondents	Passive (Total Passive/Total Respondents x100)	Promoters (Total Promoters/ Total Respondents	NPS (Promoters - Detractors)
----	-----------	---	---	---	------------------------------------

		x100)		x100)	
1	Cosiness (Sandal can provide a sense of comfort when used)	16,67	33,33	50	33,33
2	Fineness (Sandal can increase self confidence)	0	50	50	50
3	<i>Product Value</i> (Sandal have given a different impression)	0	33,33	66,67	66,67
4	Recommend Products to Others (On a score of 1-10 how likely are you to recommend to others such as colleagues, friends, relatives, etc.)	0	16,67	83,33	83,33

It can be seen according to the table above that the results of calculating the NPS score of each category in assessing the factors that influence customer preferences in buying footwear as a whole get a score that is considered good, namely a score above 0. This shows a positive assessment from customers of product innovation has been designed, and customers also have a high potential to recommend Privet products to others because the NPS score obtained from shoes, slippers and sandals has the same score of 83.33. The assessment obtained from this NPS score can not only measure the level of satisfaction based on customer preferences based on the product design but can also be used as a future reference for measuring the business in looking at future improvement strategies. Hotjar's opinion (2022) is that NPS is a way to predict business growth, which with a product design innovation at Privet can be a strategy that can be implemented to further grow Privet's business going forward.

CONCLUSIONS

This research resulted in a product design innovation based on Privet customer preferences, with a qualitative research strategy to determine customer preference factors in buying footwear and then used as a reference in designing product innovations. Based on the results of the analysis and discussion that has been done, it can be concluded that the factors of customer preference in buying footwear are comfort, beauty, and product value. These three factors are used as things that are of concern to customers in determining the footwear they will buy. Then create three product innovations for Privet footwear based on categories, namely shoes, slippers, and sandals by taking into account the factors of customer preference in purchasing footwear. As an indicator of comfort, use materials that do not cause blisters when scratched by the skin of the feet, so choose materials that are soft and not textured on the

inside, then add the thickness of the insole which has a function of increasing thickness on the heel so that it feels soft when used, and pay attention to the closed end of the model to avoid blisters on the toes. Furthermore, the beauty indicator gives the appearance of a physical design that still pays attention to the image of the Privet, namely modern, elegant and feminine, combined with the selection of materials and accessories that complement each product. As for the product value category, namely having and combining basic materials using eco-friendly fabrics as a value that you want to highlight, and creating a product characteristic, namely selecting materials that have a type of shimmer and pearl-shaped accessories, which are the characteristics and differentiators of each product. in the future.

REFERENCES

- Alcantra, E., Artacho, M. A., Gonzalez, J. C., & Garcia, A. C. (2005). Application of Product Semantics to Footwear Design. Part I-Identification of Footwear Semantic Space Applying Diferential Semantics. *International Journal of Industrial Ergonomics*, 35(8), 713–725.
- Dam, R. F., & Siang, T. Y. (2022). Affinity Diagrams: How to Cluster Your Ideas and Reveal Insights. *Interaction Design Foundation*. <https://www.interactiondesign.org/literature/article/affinity-diagrams-learn-how-to-cluster-and-bundle-ideas-and-facts>
- Hotjar. (2022). What is Net Promoter Score? Your introduction to NPS. <https://www.hotjar.com/net-promoter-score/>
- Judianto, O., & Hapsari, P. A. (2018). Perancangan Sepatu Wanita Ready to Wear Berbahan Kertas Kraft. *Jurnal Desain Idea: Jurnal Desain Produk Industri Institut Teknologi Sepuluh Nopember Surabaya*, 17(2), 32.
- Kurniawan, W., Siswanto, T., Shofiati, R., & Hartini, H. (2019). The Implementation of Design Thinking Method and Product Development Method on Student Startup Business Soul Sepatu. *Advances in Economics, Business and Management Research*, 74, 17–19.
- Limanseto, H. (2021). Pemerintah Dorong UMKM Tingkatkan Daya Saing untuk Masuk Pasar Global. <https://www.ekon.go.id/publikasi/detail/3407/pemerintah-dorong-umkm-tingkatkan-daya-saing-untuk-masuk-pasar-global>
- Plattner, H. (2010). *An Introduction to Design Thinking Process Guide*. Institute of Design at Stanford.
- Putrityas, T. F. (2016). *Revealing Consumer Preference through Product Attribute and Consumer Lifestyle: A Study of Lifestyle Shoes [Bachelor Thesis]*. Erasmus University Rotterdam.
- Rahmadanti, A. R., Aditasari, K., & Wibawa, B. M. (2021). Efektivitas strategi iklan dengan menggunakan Instagram ads untuk meningkatkan penjualan dan branding produk: Studi kasus Privet. *id. Jurnal Sains Dan Seni ITS*, 10(1), F112-F117.
- Salame, C. (2020). *Design Thinking and Social Sustainability of Luxury Brands in The Fashion Industry [Msc Degree Thesis]*. ICN Business Schoo.
- Tian, M., Lei, Y., & Li, J. (2021). A Triangle Design Framework for Functional Footwear for Chinese Older Adults. *The Journal of Design, Creative Process & The Fashion Industry*, 13(1), 69–87.