

How Digital Thrift Shops Escalate Global Supply Chain Sustainability in Indonesia

Gagah Maulidin Amirul Mukminin Hidayat

Institut Teknologi Sepuluh November Surabaya

Correspondence Email: gamaulidin@gmail.com

Abstract

The intentions of the research were to explore and analyze youngsters' behavior toward digital shopping in particular their awareness of clothing sustainability. The research also reconfirms the trends that the latest generations were able to contribute to green business sustainability in particular the way they spend on clothing and its accessories. The shopping was done digitally through youngsters' social media networks and they simply endorse it in their feed and timeline to let their networks know what they had done related to clothing style and where they could buy it, and even they could exchange it with each other to seek the experiences. The data were collected from major forwarder logistics, transporters and couriers specifically delivered the thrift shops' products within capital cities in Indonesia. Considering it was a new trend, the quantity was not as massive as the products shopped from the first official stores in the marketplace or e-commerce. Nevertheless, the trends were growing each month in 2022 with a growth of between 12% and 19% each month in 2022. The trends would continue growing as well as the sustainability both in clothing and supply chains.

Keywords: Thrift shops, Clothing sustainability, Logistics sustainability.

INTRODUCTION

Lately, selling used clothes, or what is more trendy is called thrifting, which is booming among the public, especially young people in Indonesia. Used clothing that sells various kinds such as t-shirts, shirts, pants, watches, shoes, and others. The condition of the goods is usually still very usable, although not new and some of them have traces of use. Generally, thrift entrepreneurs try to find used clothes from well-known brands with decent quality. So that consumers can buy it at a lower price. These used items, apart from being chosen because of their brand, are generally modern and fashionable. In addition, super large sizes of clothes or vintage models are also easy to find in places that sell used clothes. The promotions carried out by sellers are innovative, as an instance with the aid of creating 'mix and in shape outfit' content material which makes younger purchasers extra interested by buying it. They typically use social media to market their used clothes. the popularity of social media is an powerful advertising communication (Permatasari et al., 2021) (Ramadhani et al., 2021) (Imaroh & Marlana, 2022). The manner of packaging makes buyers consider. The clothes are within the launderette in advance and are effectively packaged till they attain the buyer. So that customers do now not experience like buying used clothes. Due to the fact, the garments being sold are used garments that best have 1 stock in each model, it isn't uncommon for

customers to scramble to get the garments they want. One fashion YouTuber recommends lowering apparel waste. He explained, by means of decreasing garb waste, it approach helping to store the earth. The fact, thrifting itself is one of the easiest recycling efforts to do. And it's going to help lessen wastage of unused clothes, those financial savings are greater pocket-friendly. Statistics globally indicate that as good deal as 92 lots consistent with a year of fabric waste is generated. This amount is equal to 1 rubbish truck coming to the TPA every 2nd (News, 2021).

The garments offered through thrift shops themselves are used clothes, so the prices have a tendency to be cheaper. Furthermore, thrift shirts have a unique and one-of-a-kind style. Due to the fact that used t-shirts are not today's production, they will no longer also be produced anymore. that is what makes thrifting even more unique. The fashion of purchasing used garments or what's now referred to as the thrifting phenomenon is booming again. According to the investigation (Simbolon, 2022), traders at Pasar Senen, an important Jakarta, right now felt the impact. The reduction in human beings' income due to the pandemic has made the thrifting trend an alternative to saving expenses. In assessment to what become skilled via the new fashion retail enterprise which experienced a decline, used apparel buyers admitted that their earnings had multiplied all through the Covid-19 pandemic. Additionally, they pursue online income strategies to boom marketing.

Similar to decreasing fees, thrifting also can help lessen textile waste, wherein case it can have a high-quality impact on the surroundings. Younger humans are now crazy approximately branded garments (Dewi & Mahargiono, 2022). However, they do not want to spend the contents in their pockets for that need. therefore, thrift stores or thrift shops presently have plenty of enthusiasts. The profit from this commercial enterprise is quite high. until there's a turnover of tens to tens of thousands and thousands per month. Consistent with a used garb supplier in Bengkulu, his commercial enterprise has been quite vibrant lately. Young adults in this town are increasingly liking branded clothing and accessories at low charges. The young adults there, except liking branded garb, also pick used apparel because the version or shape is particular and unique from the clothes sold available on the market (Somba, 2022). Now clothes originating from and branded in Korea have greater fans. maximum of the garments and add-ons are manufactured from precise materials and designs.

Shopping for used clothes, which for some human beings won't be an option, has now improved its means. There are also those who do it as a separate hobby. the ones who have this hobby then discuss this hobby as thrifting, which means saving. There are numerous things that underlie this fashion. buying used clothes and add-ons that are nevertheless right and usable is taken into consideration as more environmentally friendly. they may be of the view that what they're doing is an attempt to help preserve the environment, by way of extending the existence of an item. several research were performed in this fashion of thrifting (Kurniawan, 2020) (Harianto & Sofyan, 2022) (Simbolon, 2022) (McDonald & Dan, 2022) (Nghiem-Phú, 2022) fashion, garments and garb can be considered as one of the meanings utilized by social corporations in speaking their identification as a social group to other social businesses. Used items are currently starting to be in demand via a few human beings, specifically used or secondhand clothes by way of the younger era. this is of route carefully associated with the modern way of life which usually pursues status and a extra low priced price variety element in several nations.

METHOD

In the observation method, there are four characteristics that determine the type of observation, namely:

a. Controlled Versus Uncontrolled Observational Studies

Controlled observational is observations made by manipulating conditions and controlling the situation at the time of research. Meanwhile, uncontrolled observational is observations made without controlling, manipulating, and influencing the research situation. So that research is carried out naturally without creating a certain situation. Based on the description above, the characteristics of the observations used in this research observation are uncontrolled observational, because the research is conducted without manipulating the conditions that occur in the research object.

b. Participant Versus Nonparticipant Observation

Participant observation is where in collecting data the researcher participates in the daily life of the object of research being studied. While non-participant observation is where in conducting research the researcher is not directly involved in the research environment but only makes observations outside the object of research.

Based on the description above, the characteristics of the observations used in this research observation are participant observation, because at the time of making observations in this study the researchers participated directly in the research object.

c. Structured Versus Unstructured Observational Studies

1. Structured observational where in making observations, you have planned and determined the category of activities or phenomena to be studied or researched.

2. Unstructured observational observations are made by observing all events or events that occur and recording almost everything observed.

3. Based on the description above, the characteristics of the observations used in this research observation are structured observations, because at the time of making observations in this study, the events or events to be observed have been determined, namely the waiting time of the queue and the level of the queue at the object of research

It was concealed observation, namely in conducting research carried out in secret without notification to the object of research that they are being the object of research. Meanwhile, the unconcealed observation, namely in conducting research without being hidden, where the research object is aware and knows that they are being the object of research. Based on the description above, the characteristics of the observations used in this research observation are concealed observational, because when making observations in this study, data collection was carried out without notification to the object of research or in a hidden manner, so that the data obtained from the object of research was not influenced by the awareness that they were being studied. observed. The technique used to analyze the data in this research is the calculation using the Simulation method to calculate the queue from the Single-Server Queuing Model. Data analysis begins with testing the Poisson distribution and the exponential distribution. In the Poisson distribution test, the first step is to find the value of X^2 , by using the formula:

$$X^2 = \sum \frac{(X_i - X)^2}{X}$$

The decision criteria is carried out by means of arrivals with a Poisson distribution, where if $X_{hitung}^2 \leq X_{table}^2$ then the data has a Poisson distribution. Furthermore, to test the exponential distribution, the first step is to find the value

of X^2 , by using the formula:

$$X^2 = \sum \frac{(\mu_i - \mu_{i \text{ harapan}})^2}{\mu_{i \text{ harapan}}}$$

The decision criteria is carried out with the average waiting time with an exponential distribution, where if $X_{hitung}^2 \leq X_{table}^2$ then the data is exponentially distributed. After testing the data, the next step is to calculate the number of queues and waiting time for queues that occur in the object of research, starting with calculating the probability of frequency and cumulative frequency, then proceeding with making random number intervals. From making random number intervals, a simulation of the queue level and waiting time of the queue is made; so that the average queue level and the average waiting time of the queue are obtained.

RESULT AND DISCUSSION

This section contains data (in concise form), data analysis and interpretation of results. Results can be presented with tables or graphs to clarify the results verbally, because sometimes the appearance of an illustration is more complete and informative than the display in narrative form. In this section, it must answer the research problem or hypothesis that has been previously formulated

Poisson Distribution Test

It is concluded in the value of X^2 as shown in Table 1 below:

Table 1. Poisson Distribution Test

Semester/ Year	Transaction Numbers	X Ave.	X-X ave	$(X - X_{ave})^2$
1-2019	11,324	12,9328	-2,2857	5,2244
2-2019	14,1134	12,9328	0,7143	0,5102
1-2020	15,376	12,9328	1,7143	2,9388
2-2020	16,323	12,9328	2,7143	7,3674
1-2021	15,895	12,9328	1,7143	2,9388

2-2021	11,564	12,9328	-2,2857	5,2244
1-2022	11,203	12,9328	-2,2857	5,2244

Source: Research Data (2022)

Then value of χ^2 ,

$$\begin{aligned}\chi^2 &= \sum \frac{(X_i - X_{ave})^2}{X} \\ &= \frac{38,2435}{19,1476} \\ &= 2,1709\end{aligned}$$

Based on critical value of χ^2 with the coeff. $\alpha = 0.05$

$$\chi^2_{(1-\alpha)(k-1)}$$

Sum of $\chi^2_{count} \leq \chi^2_{table}$ is $2,1709 \leq 17,5916$

Then the distribution of thrift shop transaction is poisson distribut

Ekspponential Distribution Test

Concluded with value of χ^2 :

Table 2. Exponential Distribution Test Summary

Semester/Year	μ	μ_{ave}	$\mu - \mu_{ave}$	$(\mu - \mu_{ave})^2$
1-2019	13,2134	13,3249	-0,1845	0,0343
2-2019	15,6991	13,3249	2,1356	4,1989
1-2020	15,1259	13,3249	1,9027	5,8321
2-2020	12,4453	13,3249	-1,3179	1,1197

1-2021	11,6221	13,3249	-2,3473	4,1356
2-2021	12,8197	13,3249	-1,9718	4,2193
1-2022	11,2387	13,3249	-2,0223	4,0944

Source: Research Data (2022)

The value of χ^2 ,

$$\chi^2 = \sum \frac{(\mu_i - \mu_{ave})^2}{\mu}$$

$$= \frac{36,0214}{12,4873}$$

$$= 3,0246$$

Based on the critical value of χ^2 with the coeff = 0.05 k = 7

Then $\chi^2_{(1-\alpha)(k-1)} = \chi^2_{0,95(6)} = 16,7783$

Then the result of $\chi^2_{count} \leq \chi^2_{table}$ was $2,0246 \leq 16,7783$

Then the distribution of thrift shop transactions is exponentially Poisson distributed.

CONCLUSION

Through both analysis instruments that represent the global distribution of thrift shop transactions, it could be concluded that the transaction over regions in Indonesia escalated significantly starting the first semester in 2019 as much as 13,213 transactions and almost gaining more than 22,000 transactions by the end of 2022. More expanding and extensive surveys and explorations must be implemented as the awareness of world society related to new changes in buying behavior were fast changing and dynamically as fashion trends revised in every three months regarding to previous research. The number of thrift shop transactions escalates significantly the operations of logistics, transporter, and forwarder among the countries, not only in domestic regions.

REFERENCES

- Antonini, C., Beck, C., & Larrinaga, C. (2020). Subpolitics and sustainability reporting boundaries. The case of working conditions in global supply chains. *Accounting, Auditing and Accountability Journal*, 33(7), 1535–1567.
<https://doi.org/10.1108/AAAJ-09-2019-4167>
- Dewi, K., & Mahargiono, B. (2022). Pengaruh Gaya Hidup, Promosi, Dan Kualitas Produk Terhadap Keputusan Pembelian Pakaian Bekas Di Thrift Shop Not Bad Secondhand. *Jurnal Ilmu Dan Riset Manajemen*, 11(2), 1–14.
- Dubey, R., Bryde, D. J., Foropon, C., Tiwari, M., & Gunasekaran, A. (2022). How frugal innovation shape global sustainable supply chains during the pandemic crisis: lessons from the COVID-19. *Supply Chain Management*, 27(2), 295–311.
<https://doi.org/10.1108/SCM-02-2021-0071>
- Falagara Sigala, I., Sirenko, M., Comes, T., Ongyi, G., & Acs, K. (2022). Mitigating personal protective equipment (PPE) supply chain disruptions in pandemics-a system dynamics approach. *International Journal of Operations & Production Management*, 42(13), 144–3577. <https://doi.org/10.1108/IJOPM-09-2021-0608>
- Free, C., & Hecimovic, A. (2021). Global supply chains after COVID-19: the end of the road for neoliberal globalisation? *Accounting, Auditing and Accountability Journal*, 34(1), 58–84. <https://doi.org/10.1108/AAAJ-06-2020-4634>
- Harianto, D., & Sofyan, A. (2022). Promosi Penjualan Thrift Shop Di Media Sosial Instagram (Studi Kasus Akun Instagram@ Tilas. Berkelas). *Bandung Conference Series*
<https://proceedings.unisba.ac.id/index.php/BCSCM/article/view/4520>
- Ibrahim, H. W., Zailani, S., & Tan, K. C. (2015). A content analysis of global supply chain research. *Benchmarking: An International Journal*, 22(7), 1429–1462.
<https://doi.org/httpsdoi.org/10.1108/BIJ-04-2013-0038>
- Imaroh, N., & Marlana, N. (2022). Pengaruh Brand Reputation Dan Harga Terhadap Keputusan Pembelian Pakaian Branded Preloved di Thriftshop Online Instagram. *Jurnal Manajemen*, 14(2), 249–245. <https://doi.org/10.29264/jmmn.v14i2.11194>
- Johnson, J. E., & Haug, P. (2021). Modifications to global supply chain management strategies resulting from recent trade disruptions: an exploratory study. *Journal of Global Operations and Strategic Sourcing*, 14(4), 701–722.
<https://doi.org/10.1108/JGOSS-12-2020-0074>
- Kurniawan, H. R. (2020). IMPLEMENTASI WEBSITE PENJUALAN BRANDED THRIFT SHOP PADA TOKO “TITLEHUNT. CO.” *eprints.upnyk.ac.id*.
<https://eprints.upnyk.ac.id/24414/>

- Liu, W., Liang, Y., Lim, M. K., Long, S., & Shi, X. (2022). A theoretical framework of smart supply chain innovation for going global companies: a multi-case study from China. *International Journal of Logistics Management*, 33(3), 1090–1113.
<https://doi.org/10.1108/IJLM-10-2020-0388/FULL/XML>
- McDonald, T., & Dan, L. (2022). “Pulling the sheep’s wool”: The labour of online thrift in a Chinese factory. *Journal of Consumer Culture*.
<https://doi.org/10.1177/1469540520955206>
- Min, H. (2022). Assessing the impact of a COVID-19 pandemic on supply chain transformation: an exploratory analysis. *Benchmarking, ahead-of-print(ahead-of-print)*. <https://doi.org/10.1108/BIJ-04-2022-0260/FULL/XML>
- Miri Lavassani, K., Iyengar, R., & Movahedi, B. (2022). Multi-tier analysis of the medical equipment supply chain network: empirical analysis and simulation of a major rupture. *Benchmarking, ahead-of-print(ahead-of-print)*. <https://doi.org/10.1108/BIJ-02-2021-0095/FULL/XML>
- News, U. (2021). Sustainable Fashion, Konsep Jitu untuk Mengurangi Limbah Tekstil.
<https://news.unair.ac.id/2021/08/20/sustainable-fashion-konsep-jitu-untuk-mengurangi-limbah-tekstil/?lang=id>
- Nghiêm-Phú, B. (2022). The Projected Images of a Thrift Store Chain in Japan: A Study of Online Interview Materials. In *Handbook of Research on Green, Circular, and Digital Economies as Tools for Recovery and Sustainability*. igi-global.com. <https://www.igi-global.com/chapter/the-projected-images-of-a-thrift-store-chain-in-japan/296678>
- Nuruzzaman, M. (2015). *Sustaining Competitive Advantage Via Business Intelligence, Knowledge Management, and System Dynamics*. Emerald Group Publishing Limited, Bingley, 22A, . 221-457. <https://doi.org/10.1108/s1069-09642015000022b008>
- Permatasari, A. S., Rahmadhan, S., Firdausy, W. J., & Meidianti, H. L. (2021). Pengaruh Komunikasi Pemasaran Thrift Shop terhadap Tingkat Konsumsi Fashion di Masa Pandemi. *Jurnal Ilmu Komunikasi*, 11(1), 93–107.
<https://doi.org/10.15642/jik.2021.11.1.93-107>
- Ramadhani, N. L., Pratiwi, M. I., & ... (2021). PENGARUH SOSIAL MEDIA TERHADAP BISNIS FASHION PADA KONSUMEN REMAJA. ... of Social Sustainability
<http://jurnal.nusantaratr.org/index.php/jssm/article/view/21>
- Rauniyar, K., Wu, X., Gupta, S., Modgil, S., & Lopes de Sousa Jabbour, A. B. (2022). Risk management of supply chains in the digital transformation era: contribution and challenges of blockchain technology. *Industrial Management and Data Systems, ahead-of-print(ahead-of-print)*. <https://doi.org/10.1108/IMDS-04-2021-0235/FULL/XML>

- Shin, S. H., & Shin, S. Y. (2021). A study on the reinforcement of supply chains corresponding to global value chain reforms in the automobile parts and component industry. *Journal of International Logistics and Trade*, 19(3), 163–179.
<https://doi.org/10.24006/JILT.2021.19.3.163>
- Simbolon, F. (2022). Fenomena thrifting atau membeli pakaian bekas menjadi tren saat pandemi. *Kontan.Co.Id*.
https://images.kontan.co.id/photo_story/1071/Fenomena+thrifting+atau+membeli+pakaian+bekas+menjadi+tren+saat+pandemi
- Somba, R. (2022). Tren Thrifting Dan Isu Krusial Di Seputarnya. *Valid News*.
<https://www.validnews.id/kultura/tren-thrifting-dan-isu-krusial-di-seputarnya>
- Uluskan, M., & Godfrey, A. B. (2017). Article information : Business environment-supply chain framework and benchmarking supply chain structures : Haiti versus China
 Purpose : This study aims to develop a supply chain management framework.
Benchmarking: An International Journal, 25(8), 3021–3044.
<https://doi.org/https://doi.org/10.1108/BIJ-11-2017-0293>
- Um, J., & Han, N. (2021). Understanding the relationships between global supply chain risk and supply chain resilience: the role of mitigating strategies. *Supply Chain Management*, 26(2), 240–255. <https://doi.org/10.1108/SCM-06-2020-0248>