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EXPLORING THE ENVIRONMENTAL SUSTAINABILITY THROUGH CUSTOMERS' ACCEPTANCE: VOICES OF THE PROSPECTS OF ECO-FRIENDLY MENSTRUAL PRODUCTS (EFMP) IN MALAYSIA

Meneroka Kelestarian Alam Sekitar Melalui Penerimaan Pengguna: Suara Prospek Terhadap Produk Kebersihan Haid Mesra Alam di Malaysia

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ABSTRACT

Solid waste in Malaysia is facing an issue of the increment of the daily collected solid waste. One of the ways to settle this problem is by inspiring the use of eco-friendly menstrual product (EFMP). The aim of this research is to understand of Environmental Sustainability through the customers' acceptance: voices of the prospects of Eco-Friendly Menstrual Products (EFMP) in Malaysia. Observation has been done in two main supermarkets in Malaysia. Also, in-depth, face to face interview among five women in Klang Valley area. The Findings shows that the prospects are sharing about the alternatives to improve the awareness of EFMP. Also, the factors affecting the encouragement of the prospects to use EFMP are awareness and knowledge, environmental concern, menstrual emotion, consumers' leverage, products features, consumers' concern and affordability. In conclusion, EFMP is something new in the market where the managers and policymakers have to be more creative in introducing and encouraging the usage of EFMP.

Keywords: Environmental sustainability; Customers' acceptance; Eco-friendly Menstrual product; Malaysian consumers

ABSTRAK

Pengumpulan sisa bahan pepejal harian di Malaysia menghadapi isu peningkatan. Penggalakkan penggunaan Produk Kesihatan Haid Mesra Alam (PKHMA) adalah salah satu cara untuk menangani masalah ini. Tujuan kajian ini dijalankan ialah untuk memahami penerimaan pengguna terhadap Produk Kesihatan Haid Mesra Alam (PKHMA): Suara Prospek Terhadap Produk Kebersihan Haid Mesra Alam di Malaysia. Pemerhatian telah dijalankan di dua buah pasaraya utama di Malaysia berserta temu bual bersemuka secara mendalam bersama lima orang wanita di kawasan Lembah Klang. Dapatan kajian menunjukkan prospek berkongsi tentang alternatif to meningkatkan kesedaran PKHMA. Selain itu, faktor yang menggalakkan penggunaan PKHMA ialah kesedaran, kebimbangan tentang alam sekitar, emosi bermenstruasi, keinginan pengguna, ciri produk, kebimbangan pengguna dan kemampuan . Kesimpulannya, PKHMA ialah sesuatu yang baru dalam pasaran. Oleh itu, pengurus dan kerajaan perlu menjadi lebih kreatif dalam memperkenal dan menggalakkan penggunaan PKHMA.

Kata kunci: Kelestarian alam sekitar; Penerimaan pelanggan; Produk kebersihan haid mesra alam; Pengguna Malaysia

INTRODUCTION

Solid Waste Management

According to SWCorp, Malaysia produces approximately 8,548 tons of solid waste daily, of which about 439 tons come from public cleansing activities (Hassan et al., 2021). It has been shared by Roslan and Said (2022) about the gaining of Malaysian Solid Waste collected in a day from the year of 2018 to 2022. Lee (2025) reported that Malaysia generated 15.2 million tons of solid waste in 2024, with projections showing an increase to 15.38 million tons in 2025 and reaching 17.03 million tons by 2035. One of the components that led to the rise of solid waste management is the growing number of population (Abubakar, et al., 2022) where Malaysia also is facing the increment of population since 2018 (DOSM, 2023). Thus, it shows how critical of this problem where Malaysia has to find the solution instantly.



Figure 1: The Number of Malaysia's Population 2018-2024

The consequences of poor solid waste management towards the environment are the air and water pollution, land degradation, emissions of methane hazardous leachate and climate change (Abubakar, et al., 2022). Moreover, bad management of solid waste management also affected the public health such as waterborne diseases, mosquito-borne diseases, respiratory issue, child health risks, contamination of food and water supplies and access to clean environment (Kitole, et al., 2024). An alternative must be done in order to minimize all those negative effects mentioned. This has became one of the solid waste management issues in Malaysia and has to be solved immediately in order to sustain a good condition of the environment. one of the ways of reducing the current problem is encourage the usage of EFMP (Avramova, 2019).

Menstrual Hygiene Products

Menstrual hygiene is vital to maintain the cleanliness of the genital area in order to prevent infections, reduce odors and stay comfortable during the menstrual period by changing the menstrual products with discipline (U.S CDC, 2024). There are few types of menstrual hygiene products available in the market such as panty liners, sanitary napkins, sanitary pads, tampons, period underwear and menstrual cup (HARVARD, 2023). The highest usage of menstrual hygiene product in Malaysia is sanitary pads where 79.5 percent of Malaysia's women preferred and chose to use (Lim, 2023). Sanitary pads are used to absorb blood, vaginal mucus and substances produced by the women's body during periods (JNTL Consumer Health (India), 2025). The material used to produce sanitary pads are nonwoven fabric, Super Absorbent Polymer (SAP), cotton, adhesive, Polyethylene Film (PE Film), release paper and fluff pulp (SQ Machine, 2025). In short, sanitary pads contain up to 90 percent of plastics that consumed 500-800 years to decompose (Harrison & Tyson, 2022).

Environmental Sustainability

The Brundtland Report (1987) defines environmental sustainability as meeting present needs while safeguarding the ability of future generations to meet theirs. It is an organizing principle that balances ecological health, economic growth, and social equity. As global challenges such as climate change, biodiversity lost, and pollution intensify, environmental sustainability has become central to international policy, scientific research and community action. Related to this study, plastic pollution, chemical poisoning and solid waste collection threaten both ecosystem and human health. Inadequate waste management infrastructure and facilities, particularly in emerging countries, aggravate environmental risks (UNEP, 2021).

PROBLEM STATEMENT

There are two gaps identified throughout this study. Firstly, there is lack of research in identifying the level of knowledge of EFMP among women in Malaysia. Then, the second gap is the minimum research on the acceptance of green products that is specifically focusing on EFMP among prospects in Malaysia. Research Objectives

- 1) To find out the best strategies to introduce EFMP in for public.
- 2) To identify the reasons for minimal acceptance to use EFMP as the alternative for menstrual care products in Malaysia market.
- 3) To investigate the effects of the surroundings on the prospects' decision to use EFMPs.

LITERATURE REVIEW

Customers' Acceptance

Customers' acceptance can be defined as a point which consumers are willing to accept, buy and consistently use a product, service or idea (Davis, 1989; Rogers, 2003). It is crucial for business owner, government and researcher to understand the connection and engagement of a product and service to ensure the probability of the long-term market success and the diffusion of innovations (Ajzen, 1991; Oliveira & Martins, 2011). Moreover, in the different context of the market, acceptance not only represents the prior trial of a product or services, however also considering maintaining and integrating into customers' daily practices (Venkatesh et al., 2003).

Widely applied models for understanding customer acceptance include the Technology Acceptance Model (Davis, 1989), the Theory of Planned Behavior (Ajzen, 1991), and Rogers' Diffusion of Innovations Theory (2003). Multiple determinants of the acceptance suggested by these theories including perceived usefulness, perceived ease of use, social influence, attitudes, and normative beliefs. In addition, recent studies have considered other variables in their framework such as psychological, cultural, and ethical dimensions, particularly in areas such as sustainable consumption and green products.

Below are the explanation of the variables used:

- Perceived Value: The balance between perceived benefits (e.g., quality, convenience, environmental impact) and costs (e.g., price, effort, risks).
- Trust and Credibility Customers are more likely to welcome products or services from trusted suppliers with transparent communication.
- Social Norms and Cultural Values: Acceptance is shaped by societal expectations, religious beliefs, and cultural alignment with the product or practice.
- Awareness and Knowledge: Customers with greater awareness of product features or wider environmental/social implications are more likely to show acceptance.
- Past Experiences: Positive prior experiences with similar products strengthen acceptance, while negative experiences avoid it.

Environmental Acceptability (Environmental Favorability)

Environmental acceptability or environmental favorability products refers to the extent to which customers are prone to support, purchase, or engage with products or practices accepted as environmentally sustainable. Environmental considerations often been left out as one of the important driving factors while the researcher always focused on other determinants such price, quality and convenience. McKinsey's (2025) said global survey reports that although environmental impact is less important than cost or convenience, a significant and stable portion of consumers is about 39% worldwide and 44% in the U.S. and still consider environmental impact "extremely important" or "very important" when making purchasing decisions.

In addition, environmental acceptability product also refers the green living and green manufacturing (Hossain, 2022). Due to the global warming and extreme contamination, it resulted in extremely alarmed for green products and the awareness of green consumption (Ansu-Mensah, 2021). Due to this situation, the number of providers of green products are taking the opportunity to offer the eco-friendly products in the market.

Environmental Knowledge and Awareness

Environmental knowledge generates awareness about the condition of the environment and provides the idea of producing the eco-friendly products among the managers (Candrianto et al., 2023). The management of a company, especially sales and marketing department, always comes out with strategies to promote the latest products and services based on the changing in the surrounding that suitable to the customers' need and demand. On the other hand, the managers should consider the level of environmental knowledge and acceptance of the eco-friendly products and services among the customers in order to benefit both parties which are the company and the customers. In Malaysia, while environmental awareness among consumers is high, however, it does not always translate into green purchasing behavior. Al-Kumaim et al. (2021) found that despite strong environmental awareness, Malaysians presented only moderate engagement in green product purchases, highlighting a gap between environmental concern and actual buying behavior.

Past Research on Eco-Friendly Products

Recent studies on eco-friendly products emphasize several consistent elements that influence consumer attitudes and purchase intentions. Zhuang et al. (2021) found through meta-analysis that green perceived value, favorable attitudes, and trust strongly influence green product acceptance, while perceived risks tend to weaken purchase intentions. Similarly, a systematic review discovers that outstanding behavioral predictors such as attitude, subjective norms, environmental consciousness, and perceived behavioral control remain central in describing eco-friendly purchase decisions (Sharma, et al., 2022).

Furthermore, another important finding is consumers' willingness to pay (WTP) a premium for sustainable products. Studies conducted in 2024–2025 suggest that consumers are generally willing to pay a price premium of around 10% for eco-friendly products (Zhan et al., 2025). This outcome is stronger when eco-labels are reliable and when quality features are clearly communicated in advertising (Zahn, at al., 2025). Eco-labels, therefore, play a crucial role in connecting the gap between environmental concern and purchasing behavior. However, their success depends on trust and identification: transparent, third-party-verified labels enhance credibility and willingness to pay (Tiboni-Oschilewski, et al., 2024; (Aminravan, Kaliji, Mulazzani, Rota, & Camanzi, 2025).

In spite of these positive trends, studies also highlight challenges. The attitude and behavior gap lasts, especially in emerging markets, where high environmental awareness does not always express into actual purchases. For example, in Indonesia, pro-environmental attitudes and subjective norms were shown to grow purchase intentions, but this relationship weakened under conditions of price sensitivity (Zahro, et al., 2025). Moreover, rising awareness of greenwashing has increased consumer skepticism, which in turn reduces trust and weakens purchase intentions (Zhang, et al., 2025). This suggests that reliability and transparency are crucial for sustaining consumer confidence in eco-friendly products.

Finally, demographic trends show that younger consumers, particularly Generation Z, often express

strong environmental concern. However, their actual purchasing decisions remain influenced by affordability and label clarity (Sharma, Aswal, & Paul, 2022). Thus, while eco-friendly products enjoy growing acceptance, overcoming barriers such as price, trust, and the risk of greenwashing remains central to achieving consistent and widespread adoption.

These are some recent studies related to environmentally friendly products including all types of products without specifically defined.

Environmentally Friendly Menstrual Products (EFMP)

Eco-friendly menstrual products (EFMP) are a growing category of sustainable goods. Previous studies identified comfort, leak protection (Ramsay et al., 2023; Tu et al., 2021), environmental benefits (Hand et al., 2023; Ramsay et al., 2023), and affordability (Ramsay et al., 2023) as key factors influencing women's choices. In addition, some of the countries even used organic sanitary pads such as water hyacinth, banana stems, bamboo, papyrus, hemp and cotton to reduce the harmness to the environment (Hand et al., 2023). The most important matter to concern in order for women to choose EFMP is the comprehensive knowledge about the products because to go through the menstruation phase, women need to understand their bodies and what they actually need (Tu et al., 2021). This statement also has been approved by Regie et al. (2020) and Ansu-Mensah (2021) where among the five factors that affect the intention of women in India, the most influential is product awareness. Next, followed by perception, external influence, product feature and hygiene (Regieet al., 2020). Thus, the current study is to know the level of the awareness of EFMP among the prospects in Malaysia as this is an important information for the producers.

In conclusion, this study is investigating the intention of women in Malaysia to use EFMP as their alternatives hygiene menstrual products in order to reduce one of the critical problems which is solid waste management in Malaysia.

METHODOLOGY

Research types and design

This research is qualitative in nature. Aspers and Corte (2019) describe qualitative research as an iterative approach that enhances understanding by progressively engaging with the phenomenon under study. The methods used in this research are interview and observation.

In addition, comparing both qualitative and quantitative research study, qualitative research explains in details about the meanings, experiences and social phenomenon concern instead of using statistical graphs to present the collected data using large number of respondents as quantitative research (Creswell & Poth, 2018). This is the reason and explanation where small samples still provide meaningful data as long as the data aligned with the research objectives and follow the research methodology.

Sources of data

The sources of data are primary and secondary data. The primary data is the data collected through interview and observation. Meanwhile, the secondary data is the data gathered through the past research, newspapers and textbooks.

Sampling method, sample size and area

The convenience sampling method is used to select the participants for the interview sessions. The participants have been chosen among women who are living in the Klang Valley area and working with one the NGO's company that focusing on empowering women. Furthermore, these five participants also promoting EFMP to the B40's group and they are menstrual pad's users. The total number of participant for the interview is five samples.

Data collection

The semi-structured questionnaire is used during the interview. The interview has been done face to face with the five participants. The duration of the interview in a round 15 to 25 minutes. Next is observation.

The researcher has done the observation in two supermarkets near to Kajang area which are Lotus' kajang and Mydin Bandar Teknologi Kajang on Saturday where the place is crowded with the customers.

Data Analysis

The qualitative data were analyzed using thematic analysis, facilitated by *ATLAS.ti* software. The software was employed to systematically organize, code, and interpret the textual data derived from the interviews. The process followed Braun and Clarke's (2006) six-phase framework for thematic analysis, ensuring rigor, transparency, and credibility.

FINDINGS AND DISCUSSIONS

In-depth interview

The first research question is to find out the best strategies to introduce EFMP in for public. There are some ideas and suggestions from the respondents.

Table 1: Summarization of the findings based on RO 1

Table 1: Summarization of the findi	ings based on RO I	
Interviews	Items	Keywords
"nowadays, is a social media all social media" "For example so they they give away three sample,, I think I can try but so far I haven't come across any type of that kind of across any promotion la for the EFMP" "suggestion for the brands to to create an awareness. I mean the the word is necessity to create necessity for the industry to will encourage the industry players to at least do something to you know er to wen the when there is a demand, there's going to be supply" "its good, its better, and advertisement via, I	Social media Free samples Campaigns on sustainability Advertisement on TV and Radio	Promotion
"you create an interest among the public, okay, so the public would want to find those items and then, they will know to find this kind of items, you will find it in the drugstore"	Available in the drugstore Accessibility of the product	Accessibility
"It would go under like a NGO's. It's not like a proper. Urm Proper system which you which you have to convey all these things even like I would say like. If you see the the leaders or the government" "They should be I think promoting and. Creating awareness inside the malls and other places where the public gathers."	Government NGOs' School syllabus	Stakeholder channel

"Why not If we bring this kind of topics in the syllabus as well so that we can encourage we can expose young generations to what the E FM P in the future"		
"maybe It may not be easily accessible in terms it may be on the shelves, in shops, but whether it's says the product labelling or whether the shelf says if this is environment friendly"	Product labelling	Informative packaging

Secondly, the research objective is to identify the reasons for minimal use of EFMP in Malaysia market. The participants have shared some factors that resulted in less usage of EFMP.

Table 2: Summarization of the findings based on RO 2

Interviews	Items	Keywords
"I think more awareness program, to create necessity for the industry."	Exposure	Awareness and Knowledge
"they are not aware that they are because when you looked into the, when you go to a store, you always look at all these compartments, sanitary pad."		Kilowicuge
"I would definitely say it's lack of awareness. First, people don't have the information about it."		
"if we have that enough exposure or knowledge. Of that. EFMP, EFMP Hmm, I might as well consider to use it"		
"Uh, yes. Because yeah. So the I mean the size which one do I prefer"	Durability Material Quality	Product features
" can be reused many times. It just that, I am a bit concern about it cleanliness in what not"	Various sizes	
"when you buy something, you are expecting urm that to be something that you can use for a long time, but if it happens a otherwise, then you get frustrated."		
"quality and accessibility of the product"		

"maybe make you feel uncomfortable or make you sick, you know I just don't want to deal with that." "I just when I buy the menstruation products, I just go for something that's comfortable for me" "Another factor is I worried of the comfortability"	Saving Self-confidence Maintain the cleanliness	Prospects' preferences
"I am actually afraid afraid of that product. Because the fact that you have to know how to handle the product"		
"Because some other brands. Maybe because of the material it ar it irritates my skin"		
"I have to see that if what what are the difference between those two, but it's like totally the same one in terms of like the hygienic things".		
"Because of the time constraint. You have to wash the product, so, I have to find suitable time to use it"		
"because I prefer price. I always look for the cheaper the cheaper products for me".	Price	Affordability
"I think most people are concerned about the price. If it's eco-friendly, it might be different the price. Yeah. So I think that's the main concern".		
"I think I would also check the price of the product".		
"as long. I mean in the longer terms you can still use the same thing, invest a lot of money, right."		

The third research objective is to investigate the effects of the surroundings on the prospects' decision to use EFMPs.

Table 3: Summarization of the findings based on RO 3		
Interviews	Items	Keywords
"If it give good impact in the environment then it's OK laa nothing to Not this. I mean it wouldn't be a reason for me not to use it." "It's an if the environment because we all are aware of the environment and the climate changes and all this"	Impacts on the environment Aware the current situation of the environment	Environmental concern
"Also, to keep the environment safe"		
"Maybe if my family and friends use it, it could if I get there and the information from their if their feedback is good, I think that could be one more reason" "I think it's because. Yeah, we of course when you're. Your normal life. Without wearing a pad and wearing a pet give a big impact"	The impacts of wearing the common pad Menstruation is not comfortable Menstruation changes our life for a week	Menstruation's emotions
"Urm The menstruation itself is not a very comfortable thing for us it it's something. UrmThat that sort of urm changes the way we live for seven days or for a week" "I think if we can use so many times, it saves"		
"early exposure, I was using fabric when I started period" "it because growing up you see your sisters, your mother like they growing they grow up using pads"	Family Friends Early exposure	Consumers' leverage

Observation

Place: Mydin, Bandar Teknologi, Kajang

- 1) A woman together with her husband took 2 types of pads. First is Kotex Night (blue black, small pack) and Kotex liner (green packaging, combo 3x32's)
- 2) A few minutes later, a woman came with her husband and took Librese Sensitive maxi 3x12, 2 packs. She looked around the shelf and put the pads in the trolley.
- 3) Then, a woman with her husband came. The wife took 3 packs of Librese daily sensitive 30's. The husband looked at the wife with a weird face and the wife smiled to her husband. The husband asked "why you took so many pads?" Then, the wife replied "It's a stock for 3 to 4 months".
- 4) A wife and a husband just passed by quite fast in the area then the wife just took Librese maxi fit 16's.

- 5) A pregnant woman roamed around the liner pad area and took two types of pad, those are Librese daily sensitive and odour care. Then, she chose Liner daily sensitive.
- 6) A woman asked her brother/male friend to stay far while she was approaching the pad area. She was looking at all types of pad and holding Librese maxi pad combo and Librese night combo. She put back those two and took again the Librese night combo and read the detail of the product. After two minutes, she put back the Librese night and chose Librese maxi.
- 7) A woman came and chose Kotex Pad Cool and Kotex Liner Cool.
- 8) A woman with her daughter (small kid) and her mother discussed which pad they should choose. They took Librese Combo Maxi Fit.
- 9) A woman with her mother chose Kotex Night Value Pack. Then, they put it back and chose Kotex Night Super Value Pack 3x12's after some discussion.
- 10) A woman with her husband and kids chose Kotex Night Super Value Pack 3x12's.
- 11) A woman with her mother chose intimate liner (1 box, 100's), daughter and the mother Kotex Liner (3x32's) both with promotion of combo and price.

During the observation, there were some promotional activities running.

- 1) PadLiner Combo/Bundle promotion
- 2) Librese, Kotex and Intimate pad (combo and promotional price) Place: Lotus, Saujana Impian, Kajang
- 3) A woman with her family just passed by and took Kotex cool maxi Wing.
- 4) Two women came and opened up their shopping bag while discussing about the pad. One of them took Librese Combo. Suddenly, a salesman came and explained about the Librese promotional bundle, then they were having a discussion again and only took Kotex Liners. Then, they went to the next part of the shelf and took Laurier Comfort Night 35.5cm Combo/Bundle.
- 5) A woman came and took ALIV panty liners 3x20's and ALIV 20's pads.
- 6) A teenager and her mother took panty liners for Librese brand (V-fresh 40's).
- 7) A mother with two boys, while her husband waited not far from the shelf, were walking from one shelf to another and took Sofy Skin Comfort Combo Pack.
- 8) A family of five came at the pad shelfs. The mother took a pack of Kotex Maxi 24cm 20's and asked her teenage daughter, "This one, right?" Then the daughter just nodded down. Then she put the pad in the trolley.

The observation shows that women are price sensitive when choosing menstruation pads. They tend to choose the pads that is on going promotion; either price discount, combo pack or extra units' promotion. Moreover, women only loyal to one brand of the menstruation products because they just come to the shelves and simply take the brand, they want without border other available brands.

In addition, the husband is playing role in deciding the type of pad and the quantity of pads that the wife should buy. Also, the mother, daughter and female friends' opinion are the factors that affect the buying

decision of menstrual pads of a woman. In conclusion, the observation is to see the behavior of a woman while buying the menstrual pads.

CONCLUSION

The findings shows that awareness is the main reason to create the intention of using EFMP among prospects. Regie et al. (2020) and Ansu-Mensah (2021) also found that the awareness is the most influential factor that relates to the intention of using EFMP among the customers. This is because, the researcher observed that women are only focus on the menstrual pads that they want to buy without even border the other brands on the shelves. Thus, this study explained that to create the awareness among the prospects, there are some factors to be considered, those are accessibility, promotion, packaging of the products and the policymakers.

This study identified product features (Regie et al., 2020), environmental concern (Hand et al., 2023; Ramsay et al., 2023), cost (Ramsay et al., 2023), and menstrual experiences (Tu et al., 2021) as factors influencing Malaysian women's intentions to adopt EFMP, aligning with prior research findings. The other two factors are subjective norm and perceived behavioral control not included. This is because women in Malaysia prefer to get advice from people who are close to them such as mother, sisters, husband and friends. Furthermore, they are also worried to try something new that is not used by other people. That is why subjective norm and perceived behavioral control are among the factors that affect the women to choose EFMP.

The findings of this research will provide the information for the managers. This information is vital in understanding the prospects in order to create the best strategy to cater the customers. Moreover, the managers may know the factors that they have to consider when deciding to do certain marketing strategy to market the products.

Then, people are more interested towards sustainability after the pandemic COVID-19 (Hossain, 2022), thus the company should take this opportunity to introduce EFMP to the customers at the same time promoting the importance of keeping the environment safe. The data provided by this research might assist the company the type EFMP that is preferred by the prospects since there is various types of EFMP in the market.

This research is focused on the intention of using EFMP among the prospects in Klang Valley area. The next research may target the prospects from the other states in Malaysia. In addition, this research also has been done on the women who are staying in the urban area where the future research might be done at rural area somewhere in Malaysia.

Moreover, this research has used qualitative research methodology that is to explore the perception and knowledge of the prospects about EFMP. The findings of this research can be applied to examine the conceptual framework using quantitative research methodology. Furthermore, this study is interested to know the information on the prospects' view while the future research may collect the data from the managers' view.

Lastly, the next study may aim specifically on the types of generation. This is because the current research is done to know understanding the prospects of EFMP in general where the data collected from the prospects without concerning their age group. Thus, by focusing on the generation, the findings will be more precise on the target market.

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REFERENCES

Abubakar, I. R., Maniruzzaman, K. M., Dano, U. L., AlShihri, F. S., AlShammari, M. S., Ahmed, S. M., . . . Alrawaf, T. I. (2022). Environmental Sustainability Impacts of Solid Waste Management Practices in the Global South. *Int J Environ Res Public Health*, 19(19), 12717.

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Al-Kumaim, N. H., Shabbir, M. S., Alfarisi, S., Hassan, S. H., Alhazmi, A. K., Hishan, S. S., . . . Al-Reja, H. M. (2021). Fostering a Clean and Sustainable Environment through Green Product Purchasing Behavior: Insights from Malaysian Consumers' Perspective. *Sustainability*, 13(12585), 1-17.
- Aminravan, M., Kaliji, S. A., Mulazzani, L., Rota, C., & Camanzi, L. (2025). Ecolabels as a means to satisfy consumers' environmental concerns, need for information, and trust in short fruit and vegetable supply chains: a cross-national study. *Agricultural and Food Economics*, 13(24). doi:10.1186/s40100-025-00369-3
- Ansu-Mensah, P. (2021). Green product awareness effect on green purchase intentions of university students': an emerging market's perspective. *Future Business Journal*, 7(48).
- Aspers, P., & Corte, U. (2019). What is Qualitative in Qualitative Research. *Qualitative Sociology*, 42(2), 139-160.
- Avramova, N. (2019, July 16). There's an effective, environmentally friendly option for people with periods, and few know about it, research says. Retrieved from Cnn Health: https://edition.cnn.com/2019/07/16/health/menstrual-cup-study-intl-trnd/index.html
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
- Candrianto, C., Aimon, H., & Sentosa, S. (2023). The role of knowledge, awareness and environmental attitudes in green product management. *Global Journal of Environmental Science and Management*, 9(1), 101-112.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed. ed.). Canada: SAGE.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- DOSM. (2023, August 30). *Malaysia has a population of 32,447,385 people. What does this population look like?* Retrieved from OpenDOSM: https://open.dosm.gov.my/dashboard/kawasanku
- Fishbein, M., & Ajzen, I. (1980). Theory of reasoned action: Some applications and implications. *Nebraska Symposium on Motivation*, *27*, 65-116.
- Harrison, M. E., & Tyson, N. (2022). Menstruation: Environmental impact and need for global health equity. *International Journal of Gynecology & Obstetrics*, 160(2), 378-382. doi:doi.org/10.1002/ijgo.14311
- HARVARD, C. T. (2023, May). *Menstrual hygiene products: pads and tampons are the go-to choice*. Retrieved from HARVARD T.H. CHAN: https://hsph.harvard.edu/research/apple-womenshealth-study/study-updates/menstrual-hygiene-products-pads-and-tampons-are-the-go-to-choice/
- Hossain, M. (2022). Consumers Buying Intention towards Eco-Friendly Products: A Perspectives of Coronavirus Outbreak. *International Journal of Humanities and Social Science Review*, 8(1), 11-23.
- JNTL Consumer Health (India). (2025, February 21). *What are sanitary pads?* Retrieved from StayFree: https://www.stayfree.in/what-is-sanitary-napkin-and-how-to-use
- Kitole, F. A., Ojo, T. O., Emenike, C. U., Khumalo, N. Z., Elhindi, K. M., & Kassem, H. S. (2024). The Impact of Poor Waste Management on Public Health Initiatives in Shanty Towns in Tanzania. *Sustainability*, *16*(24), 10873. doi:doi.org/10.3390/su162410873

- Lee, B. (2025, September 5). Surge in recycling in Malaysia drowned out by rising tide of trash. Retrieved from ASIA NEWS NETWORK: https://asianews.network/surge-in-recycling-in-malaysia-drowned-out-by-rising-tide-of-trash/#:~:text=Surge%20in%20recycling%20in%20Malaysia%20drowned%20out,2025%20an d%2017.03%20million%20tonnes%20by%202035.
- Lim, A. (2023, July 7). 3 Women's Personal Care eCommerce Market Trends in Malaysia: Razors, Bath & Shower, and Feminine Hygiene. Retrieved from Jani: https://www.janio.asia/resources/articles/malaysia-ecommerce-trends-womens-personal-care#:~:text=Tampons%20only%20held%201.5%20per%20cent%20of,per%20cent)%20and %20pantyliners%20(19%20per%20cent).
- Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qualitative Health Research*, 26(13), 1753-1760. doi:10.1177/1049732315617444
- McKinsey. (2025). Sustainable packaging: 2025 global consumer views. McKinsey & Company.
- Oliveira, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *he Electronic Journal Information Systems Evaluation*, 14(1), 110-121.
- Ramsay, C., Hennegan, J., Douglass, C., Eddy, S., Head, A., & Lim, M. (2023). Reusable period products: use and perceptions among young people in Victoria, Australia. *BMC Women's Health*, 102.
- Regie, R., Sajan, S., & Vinnarasi B. (2020). Buying intension of menstrual cups among women in India. *International Journal of Advanced Science and Technology, 29*(2), 13-24.
- Rogers, E. M. (2003). Diffusion of Innovations. New York: FREE PRESS.
- Roslan, M. B., & Said, S. M. (2022, March 10). *Question Mark Over Malaysia's Hope Of Achieving*40 Percent Recycling Rate By 2025. Retrieved from BERNAMA.com: https://www.bernama.com/en/b_focus/news.php?id=2060298#:~:text=TARGET%20HARD% 20TO%20ACHIEVE,)%3B%20and%202022%20(39%2C936).
- Sharma, K., Aswal, C., & Paul, J. (2022). Factors affecting green purchase behavior: A systematic literature review. *Business Strategy and the Environment, 32*(4), 2078-2092. doi:doi.org/10.1002/bse.3237
- SQ Machine. (2025, January 3). What Are The Raw Materials For Sanitary Pads? Retrieved from Shengquan Machinery: https://sanitarypadmachine.com/what-are-the-raw-materials-for-sanitary-pads/#:~:text=When%20it%20comes%20to%20manufacturing,create%20high%2Dquality%20sanitary%20pads.
- Tiboni-Oschilewski, O., Abarca, M., Pierre, F. S., Rosi, A., Biasini, B., Menozzi, D., & Scazzina, F. (2024). Strengths and weaknesses of food eco-labeling: a review. *Front Nutr.*, 11(1381135). doi: 10.3389/fnut.2024.1381135
- Tu, J.-C., Lo, T.-Y., & Lai, Y.-T. (2021). Women's cognition and attitude with eco-friendly menstrual products by consumer lifestyle. *International Journal of Environmental Research and Public Health*, 18(11), 5534.
- U.S CDC. (2024, May 7). *Healthy Habits: Menstrual Hygiene*. Retrieved from U.S Centers For Disease Control and Prevention: https://www.cdc.gov/hygiene/about/menstrual-hygiene.html
- UNEP. (2021). From Pollution to Solution: A global assessment of marine litter and plastic pollution. United Nations Environment programme.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- World Comission on Environment and Development. (1987). Our Common Future. Oxford University

Press.

- Yong, L., Bairong, W., & Orachorn, S. (2022). Is Female a More Pro-Environmental Gender? Evidence from China. *Int J Environ Res Public Health*, 19(13), 8002.
- Zahro, K., Ahmad, G. N., & Krissanya, N. (2025). Green purchase intention influenced by attitude, norms, control, and price sensitivity as a moderation. *Jurnal Dinamika Manajemen dan Bisnis*, 8(1), 33-50.
- Zhan, Y., Ren, Y., & Xu, J. (2025). Willingness to pay a premium for eco-label products in China: a mediation model based on quality value. *Scientific Reports*, 15(1783). doi:10.1038/s41598-025-86202-9
- Zhang, Y., Zhang, Q., & Li, X. (2025). Addressing consumer skepticism: effects of post-purchase green attribute disclosure on consumer attitude change. *Humanities and Social Sciences Communications*, 12(1167). doi:doi.org/10.1057/s41599-025-05556-7
- Zhuang, W., Luo, X., & Riaz, M. U. (2021). On the Factors Influencing Green Purchase Intention: A Meta-Analysis Approach. *Front Psychol.*, 12(644020). doi: 10.3389/fpsyg.2021.644020