

## Designing Vegan Leather Based on Coffee Grounds as an Effort to Optimize Green Brand Awareness Work Unusual

Tamara Cony Widyastika\*, Arini Arumsari, Muchlis

Universitas Telkom, Indonesia

Email: [tamaracony@student.telkomuniversity.ac.id](mailto:tamaracony@student.telkomuniversity.ac.id)\*

### ABSTRACT

This study addresses the increasing competition in Indonesia's coffee shop industry, where brand identity and sustainability values play a crucial role in building consumer awareness. Work Unusual, a coffee shop that has implemented various sustainability initiatives, faces challenges in communicating these values consistently through its visual media. This research aims to design an apron made of vegan leather from coffee grounds as a product medium to optimize green brand awareness at Work Unusual. A descriptive qualitative approach with a design thinking framework was employed, involving the stages of empathize, define, ideate, prototype, and test. Data were collected through observation, interviews with staff and visitors, questionnaires, and literature studies. The findings reveal that aprons, as staff attributes used in direct customer interactions, hold strategic potential as a visual medium for conveying sustainability values. The use of coffee-grounds-based vegan leather supports material sustainability and circular economy principles while reinforcing brand identity. The apron design successfully integrates function, aesthetics, and eco-friendly values, enhancing consumer perceptions of Work Unusual's sustainability commitment. This study concludes that sustainable aprons can effectively support the optimization of green brand awareness in coffee shop environments.

**Keywords:** *green brand awareness; sustainable aprons; vegan leather; coffee grounds; Coffee shop*

### INTRODUCTION

Several studies have examined the role of work attributes in shaping brand image and the use of sustainable materials in the creative and hospitality industries. You Know (2012) and Yusuf et al. (2016), in their research on the influence of work uniforms on consumer perceptions, found that well-designed work attributes not only enhance employee professionalism but also contribute to the formation of a positive brand image in the minds of consumers. Yeh and Chen (2020) specifically examined sustainable apron design in the hospitality industry and found that aprons made with environmentally friendly materials can improve brand image and green brand awareness through direct visual experiences for consumers. Meanwhile, from a material perspective, Tian et al. (2022) and Kim et al. (2022) developed coffee-grounds-based bio-leather and demonstrated that this material has suitable mechanical properties for functional products and supports the principles of a circular economy. Research by Andriyani et al. (2020) and Wang et al. (2020) also emphasized that green marketing strategies through environmentally friendly products can strengthen green brand awareness, but their effectiveness is highly dependent on the communication media used. However, these studies are still partial because they have not simultaneously integrated green brand awareness, apron design as a work attribute, and the use of coffee-grounds-based vegan leather in a single coffee shop context (Durán, 2024; Nazwa et al., 2025). Therefore, this study aims to address this by

designing a vegan leather apron made from coffee grounds as a strategic visual medium for optimizing green brand awareness at Work Unusual.

The issue of sustainability has become an increasingly urgent global concern as environmental crises, climate change, and the accumulation of industrial waste have a direct impact on the quality of human life (Chowdhary et al., 2019; Saxena, 2025; Yang et al., 2023). Various industrial sectors are required to adapt to the sustainable development paradigm, including the creative and hospitality industries, which make a significant contribution to resource consumption and waste production. In this context, the coffee shop sector is experiencing rapid growth globally and nationally, but on the other hand it also contributes to environmental problems, especially through the use of single-use materials, organic waste, and high energy consumption. Therefore, sustainability practices are no longer positioned as added value, but as a strategic element in business management and brand identity. In line with this, the concept of green brand awareness is becoming increasingly relevant as an indicator of the extent to which consumers are able to recognize, remember, and associate a brand with a commitment to environmental issues (Tseng, 2013; Wang et al., 2020).

Although global awareness of environmental issues continues to increase, the implementation of sustainability in business practices is not always followed by the formation of optimal green brand awareness in the minds of consumers (Alamsyah et al., 2020; Nohekhan & Barzegar, 2024; Pancić et al., 2023; Papadopoulou et al., 2022; Sun et al., 2023). One of the main factors influencing this condition is the gap between the sustainability actions taken by companies and the way those values are communicated to the public. Many business actors have applied environmentally friendly principles but have not been able to convey them effectively through media that are easily recognized and directly experienced by consumers. Andriyani et al. (2020) emphasized that green marketing through environmentally friendly products can strengthen green brand awareness, but its effectiveness depends heavily on the communication media used. In the context of the hospitality industry, visual media and physical attributes have an important role as they become part of the consumer's immediate experience when interacting with the services provided (Wu et al., 2009; Yeh et al., 2020).

Another factor that affects the low level of green brand awareness is the lack of use of functional products as a means of communicating sustainability values (Papadopoulou et al., 2022). Communication strategies that rely too heavily on digital media are often one-way and do not always create meaningful experiences for consumers. In fact, consumers tend to find it easier to build brand associations through visual experiences and direct interactions with physical elements that are used consistently in a company's operational activities. When sustainability values are not embodied in a concrete and visible form, consumers find it difficult to distinguish between brands that are truly committed to the environment and brands that simply adopt a green narrative. This condition has the potential to reduce the effectiveness of sustainable branding strategies and hinder the formation of consumer loyalty based on environmental values (Wang et al., 2020; Murtiningsih et al., 2025).

The impact of suboptimal sustainability communication is felt not only at the level of consumer perception but also on the strength of overall brand identity. When green brand awareness is not well formed, a company's sustainability efforts risk failing to provide added value to brand image and market differentiation (Alamsyah et al., 2020; Chkanikova & Lehner, 2015; Ha et al., 2022). This is a serious challenge for coffee shops that operate amid fierce competition and increasingly critical consumer attention to environmental issues. Without strong and consistent visual media, sustainability values are difficult to internalize in brand experiences, so the potential of sustainability as a differentiation strategy is not maximized. Therefore, an alternative approach is needed that can

bridge sustainability practices with consumer perceptions through media that are functional, visual, and integrated into daily activities (Tu et al., 2012; Yeh et al., 2020).

Green brand awareness in this study is understood as the ability of consumers to recognize, remember, and distinguish a brand as one that has a commitment to environmental issues. Wang et al. (2020) explain that green brand awareness is not only related to brand name recognition, but also to the strength of consumer associations with the sustainability values inherent in the brand. In the context of coffee shops, green brand awareness can be built through the integration of sustainability values into visual identity, work attributes, and service experiences. One of the media that has strategic potential is the staff apron, because it is used consistently and is present in the space of direct interaction between baristas and customers. As part of the work uniform, the apron not only serves as a protector but also as an element of corporate identity that influences consumers' perceptions of professionalism, brand image, and the values the company carries (Joseph et al., 2016; Tu et al., 2012).

In addition to the media aspect, the selection of sustainable materials is an important factor in strengthening the green branding message. Vegan leather based on coffee grounds is a material innovation that is relevant in the context of sustainability because it utilizes organic waste as an alternative resource. Research by Tian et al. (2022) and Kim et al. (2022) shows that coffee grounds can be processed into bio-leather materials with mechanical characteristics suitable for functional products. The use of this material not only reduces dependence on animal leather and synthetic plastics but also supports the principle of a circular economy by processing waste into products with utility value. In the context of product design, the use of coffee-grounds-based vegan leather has great potential as a visual representation of sustainability that can be communicated directly to consumers through products used daily by coffee shop staff.

The novelty of this study lies in the integration of three main aspects that have not been studied simultaneously in previous research, namely green brand awareness, apron design as a work attribute, and the use of coffee-grounds-based vegan leather. Previous studies have generally addressed the role of work uniforms in brand image or examined sustainable materials separately in the context of fashion and craft products. However, research that specifically combines staff aprons as a visual medium of sustainability with vegan leather made from coffee waste in the context of coffee shops is still very limited. Thus, this research offers a new approach in sustainable product design that positions the apron not only as work equipment but also as a strategic medium to optimize green brand awareness.

The urgency of this research is based on the need for the coffee shop industry to develop a branding strategy that is more authentic, sustainable, and easily perceived by consumers. Work Unusual as a case study has implemented various sustainability initiatives, but these have not been fully supported by visual media capable of conveying such values consistently in daily interactions. This condition shows that there is a gap between sustainability practices and consumer perceptions that needs to be bridged through a product design approach. With increasing consumer awareness of environmental issues, coffee shops that are able to communicate sustainability values in concrete ways have a greater chance of building brand differentiation and customer loyalty.

The purpose of this research is to design Work Unusual staff aprons made of coffee-grounds-based vegan leather as a functional and sustainable product medium, while optimizing customer green brand awareness. This research also aims to explore the role of aprons as work attributes that are able to represent visual identity and brand sustainability values through a design thinking

approach. Thus, the resulting design is expected to be relevant to staff operational needs and effective in conveying sustainability messages to consumers.

The benefits of this research include both theoretical and practical aspects. Theoretically, this research contributes to the development of sustainable product design and green branding studies by adding perspectives on the use of work attributes as visual media for sustainability. Practically, this study provides recommendations for eco-friendly apron designs that can be applied by coffee shops as part of a sustainable branding strategy. In addition, this research is expected to serve as a reference for creative industry players in developing waste-based functional products that have aesthetic, functional, and communicative value regarding environmental issues.

## **RESEARCH METHODS**

This research is qualitative research with a descriptive approach that aims to gain an in-depth understanding of the problem of green brand awareness in the context of coffee shops and to formulate solutions based on sustainable product design. The qualitative approach was chosen because this research is not oriented toward numerical measurement, but toward the meaning, interpretation, and exploration of phenomena related to perceptions, experiences, and values interpreted by users and stakeholders. According to Creswell (2014), qualitative research allows researchers to understand social phenomena holistically through the perspective of participants, making it relevant for examining how sustainability values are perceived and communicated through work attributes such as aprons. A descriptive approach is used to describe empirical conditions systematically and contextually without manipulating variables, so that the research results can represent the real situation in the field.

### **Research Location and Time**

This research was carried out at Work Unusual, a coffee shop located on Jl. Buah Batu No. 90, Lengkong District, Bandung City, West Java. This location was chosen because Work Unusual has implemented various sustainability initiatives, such as waste management, the use of environmentally friendly materials, and the “Less Waste, More Coffee” campaign, but these efforts have not been fully supported by consistent visual media in its daily operations. The research was conducted from February to May 2025, in line with the field observation process, qualitative data collection, and design solution development. The research period was selected by considering the intensity of the coffee shop’s operational activities so that the researcher could obtain a representative picture of the interaction between staff, customers, and work attributes used in the context of daily services (Soewardikoen, 2021).

### **Context and Aspects Examined**

This research covers several main interrelated aspects, namely visual communication, material sustainability, work attribute functions, and consumer perceptions of the environmental values carried by the brand. The research focus is directed at how the apron as a work attribute can function not only functionally, but also as a visual medium that represents sustainability values and supports the formation of green brand awareness. In this context, the apron is positioned as part of the brand’s visual identity that is consistently present in direct interactions between staff and customers. This approach is in line with the views of Tu et al. (2012) and Yeh et al. (2020), which emphasize that work uniforms and staff visual attributes influence consumer perceptions of brand image and values, including the sustainability values carried by the company.

The population in this study includes all Work Unusual staff and customers who are directly involved in operational activities and service experiences at the coffee shop. This population was

chosen because they are the ones who directly interact with the work attributes and visual environment of Work Unusual. The research sample was determined using a purposive sampling technique, namely the deliberate selection of respondents based on specific criteria relevant to the research objectives. The main sample consists of baristas and Work Unusual staff as direct users of the apron, as well as regular customers who have visited at least three times and have an interest in sustainability issues. Purposive sampling is used to obtain in-depth and contextual data, as explained by Sugiyono (2019) and Etikan et al. (2016), that this method allows researchers to obtain the most relevant information from participants who understand the phenomenon being studied.

The research instruments in this study were designed to support the collection of comprehensive and contextual qualitative data. Data were obtained through field observations, semi-structured interviews, open-ended questionnaires, and literature studies. Observations were carried out to understand staff work activities, functional needs, work attributes, and visual conditions that affect customer perceptions. Interviews were used to explore the experiences, views, and expectations of staff and customers regarding the implementation of sustainability values and the use of work attributes. The questionnaire served as supporting data to obtain an overview of perceptions of green brand awareness and consumer views on sustainability visual media. Literature studies were used to strengthen the theoretical foundation and ensure that the designed solution is aligned with previous research findings (Palinkas et al., 2015; Kallio et al., 2016).

Data analysis was carried out in a descriptive-qualitative manner with an emphasis on the process of interpreting field findings. Data obtained from observations, interviews, and questionnaires were analyzed thematically to identify patterns, user needs, and key problems related to green brand awareness and work attributes. To maintain data validity, this study applied method triangulation by comparing the results of various data collection techniques. The triangulation approach aims to increase the credibility and validity of research findings through cross-verification between data sources, as stated by Denzin (2012) and Soewardikoen (2021). With this strategy, the results of the analysis are expected to represent empirical conditions objectively and be academically accountable.

## **RESULTS AND DISCUSSION**

### **Profile and Overview of Research Objects**

The object of this research is Work Unusual, a coffee shop located on Jl. Buah Batu No. 90, Lengkong District, Bandung City. Work Unusual is a concept development of Work Coffee Indonesia which has been carrying the value of sustainability through the "Less Waste, More Coffee" campaign since its inception. The Work Unusual profile shows the character of a workspace and social interaction for the creative community, remote workers, students, and creative industry players who have concerns about environmental issues. The existence of Work Unusual in the urban area of Bandung makes it relevant as a case study of green brand awareness research in the coffee shop sector which faces high competition and consumers who are increasingly critical of the value of sustainability (Han, 2021; Andriyani et al., 2020).

Operationally, Work Unusual has implemented a number of sustainability policies, including reducing the use of single-use plastics, using furniture from recycled materials, providing incentives for customers who bring tumblers, and cooperation with waste management. However, preliminary observations show that the work attributes of staff do not explicitly represent the value of sustainability. This condition creates a gap between the sustainability practices carried out and the visual perception received by customers, so that green brand awareness has not been formed optimally (Wang et al., 2020; Murtiningsih et al., 2025).

### Profile of Research Respondents

The study respondents consisted of two main groups, namely Work Unusual staff and customers. The staff involved include baristas, head baristas, and operations managers who are directly involved in daily service activities. The group of customers who became respondents were regular customers who had visited at least three times and had an interest in the concept of a sustainable coffee shop. The selection of respondents aims to obtain a comprehensive picture of the functional needs of work attributes as well as consumer perception of sustainability value communicated through visual media (Sugiyono, 2019; Etikan et al., 2016).

**Table 1. Profile of Research Respondents**

Category Responden	Quantity	Age Range	Role
Staf Work Unusual	6 person	22–32 year	Barista, Head Barista, Manager
Regular Customers	24 person	18–40 year	Regular visitors
<b>Total</b>	<b>30 person</b>	–	–

Source: Processed research data, 2025

The respondents' profiles show that the majority of Work Unusual customers are in the productive age group with mobile and creative lifestyles. This characteristic is in line with the target market of sustainable coffee shops which tend to have a higher awareness of environmental issues, although they are not always able to clearly identify the sustainability value carried by a brand without strong visual media support (Yeh et al., 2020).

#### Overview of Green Brand Awareness Variables

The results of data collection show that the level of customer green brand awareness towards Work Unusual is still in the medium category. Most customers know that Work Unusual has an eco-friendly concept, but are unable to identify the specifics of the form of sustainability practices applied. These findings indicate that consumer awareness is still general and has not been deeply internalized as part of brand identity. This is in line with the concept of green brand awareness put forward by Tseng (2013) and Wang et al. (2020), that green brand awareness is not only related to concept recognition, but also to the power of association and brand differentiation in the minds of consumers.

Based on the results of questionnaires and interviews, customers tend to more easily recognize sustainable coffee shops through visual elements that are used consistently by staff. When the work attributes don't show significant visual differences, customers have a hard time distinguishing Work Unusual from other coffee shops that carry a similar narrative. This condition strengthens the findings of Wang et al. (2020) that visual media has an important role in shaping green brand awareness through direct consumer experience.

### Observation Results on Staff Work Attributes

Field observations show that prior to the design, Work Unusual did not have an apron as a standard work attribute for staff. Baristas and staff wear casual clothes that are not uniform, making it visually difficult to distinguish from customers. This condition has an impact on the weak visual identity of staff and the reduced potential of the apron as a medium of communication of sustainability values. These findings are in line with the views of Tu et al. (2012) and Joseph et al. (2016) who stated that work uniforms are an important part of corporate identity and affect consumers' perception of professionalism and brand image.

In addition, observations also revealed that the barista's work activities involve the risk of dirt, liquid splashes, and direct contact with work equipment. The absence of an apron not only has an impact on the visual aspect, but also on the protection function and work comfort. This shows the need for work attributes that are not only functional, but also able to represent the value of sustainability as part of the service experience (Gupta et al., 2014; Yeh et al., 2020).

**Interview Results with Work Unusual Staff**

The results of interviews with staff showed that they recognize the importance of sustainability as part of Work Unusual's identity, but feel that these values have not been fully conveyed to customers. The staff stated that the existence of an apron with environmentally friendly materials can help strengthen a professional image as well as a means of communicating sustainability values indirectly. These findings suggest that staff view aprons not only as work equipment, but also as a branding medium inherent in daily service interactions (Wu et al., 2009; Tu et al., 2012).

Staff also expressed the need for an apron that is comfortable, flexible, and does not hinder movement during work. Ergonomics and material durability are the main considerations in daily use. This corroborates the view of Joseph et al. (2016) that aprons are included in the category of functional clothing that must integrate protection, comfort, and aesthetics in one design.

**Customer Perception of Sustainability Visual Media Results**

The results of the questionnaire showed that the majority of customers stated that it would be easier to remember a coffee shop that consistently displays visual attributes of sustainability, such as staff uniforms made of environmentally friendly materials. Customers consider that the visual media used by staff has a direct influence on the perception of professionalism and brand values. These findings are in line with Yeh et al. (2020) who stated that sustainable apron design can improve brand image and green brand awareness in the hospitality industry.

**Table 2. Customer Perception Summary**

Statement	Percentage Agree
Staff aprons affect coffee shop image	83%
Eco-friendly attributes increase brand trust	79%
Visual media helps remember the value of sustainability	75%

Source: Processed research questionnaire, 2025

The data shows that customers respond positively to the potential for sustainable use of aprons as visual media. This reinforces the finding that green brand awareness can be optimized through direct and repetitive visual experiences in service interactions (Wang et al., 2020).

**Results of the Study of Vegan Leather Materials Based on Coffee Grounds**

The results of the material study show that vegan leather made from coffee grounds has mechanical characteristics suitable for application as a work apron. Based on quality tests from the Textile Center, this material has tensile strength and elasticity close to animal leather, and is biodegradable. These findings support the results of Tian et al. (2022) and Kim et al. (2022), who stated that coffee waste can be processed into bio-leather materials with adequate performance for functional products.

The use of this material is also considered relevant to the concept of a circular economy because it utilizes coffee consumption waste produced by the coffee shop itself. Thus, an apron made of coffee-grounds-based vegan leather not only serves as a work attribute but also as a concrete symbol of sustainability practices that can be communicated visually to customers (Fisk, 2010; Robertson, 2021).

This discussion began by emphasizing the main urgency of the research, namely the gap between the sustainability practices implemented by coffee shops and the level of green brand awareness formed in the minds of consumers. The results show that Work Unusual has implemented various sustainability initiatives, such as reducing single-use plastics, utilizing recycled materials, and collaborating with waste managers. However, these practices have not been fully internalized in customer perceptions. This condition strengthens the view of Wang et al. (2020) and Murtiningsih et al. (2025) that green brand awareness is not automatically formed only through sustainability actions, but requires communication media capable of bridging these values with consumer experience.

In the context of a highly competitive coffee shop industry, this urgency increases as consumers have many choices with relatively similar sustainability narratives. Without visual differentiation and concrete experience, sustainability values risk being perceived as generic claims that lack differentiating power. Therefore, this research is relevant to the need for sustainability communication strategies that are more authentic, functional, and easily recognizable through direct interaction between staff and customers.

The results indicate that one of the main causes of low green brand awareness at Work Unusual is the lack of visual media that consistently represents sustainability values in daily operational activities. Observations show that prior to the design, staff did not use aprons as standard work attributes, making them visually indistinguishable from customers. These findings are in line with Tu et al. (2012) and Joseph et al. (2016), who stated that work uniforms are an important part of corporate identity and influence consumers' perceptions of professionalism and brand image.

Additionally, sustainability communication strategies that rely too heavily on digital media tend to be passive and do not always create meaningful experiences. Work Unusual customers know that the coffee shop has an eco-friendly concept but are unable to identify the concrete forms of these practices. This suggests that sustainability information has not been integrated into the service experience directly. Wang et al. (2020) emphasized that green brand awareness is formed through repeated processes of recognition, recall, and differentiation, one of which is influenced by consumers' visual experiences in the service space.

The findings of the study show that aprons have strategic potential as visual media capable of addressing the problem of low green brand awareness. As a work attribute, the apron is in very close proximity to consumers because it is worn directly by staff in every service interaction. This makes the apron a repetitive and easily recognizable brand touchpoint. Wu et al. (2009) and Yeh et al. (2020) stated that staff visual attributes have a significant effect on consumer perceptions of service quality and brand image, including sustainability image.

In this study, the apron is not positioned solely as protection for workwear, but as a medium for communicating sustainability values integrated with Work Unusual's visual identity. Interview results show that both staff and customers view the apron as an element that can enhance professionalism while clarifying the brand's character. Thus, the apron serves as a design solution that simultaneously bridges functional, aesthetic, and environmental value communication needs.

The solution offered by this research lies not only in the use of aprons as visual media but also in the selection of coffee-grounds-based vegan leather as the material. The material study shows that this material has mechanical characteristics suitable for functional products, while also being biodegradable and supporting circular economy principles. These findings are in line with Tian et al. (2022) and Kim et al. (2022), who proved that coffee waste can be processed into bio-leather with performance close to animal leather.

The use of coffee grounds as raw material for aprons also has strong symbolic meaning in the context of coffee shops. Waste generated from the core activities of the coffee shop is reprocessed into products with utility value, thereby creating a concrete and easily understood sustainability narrative for consumers. This approach reinforces the arguments of Fisk (2010) and Robertson (2021) that effective sustainability practices are those able to integrate ecological, economic, and social aspects into real business activities.

The results of questionnaires and interviews show that customers respond positively to the potential use of sustainable aprons as visual media. The majority of respondents stated that staff work attributes influence the image of the coffee shop and help them remember the sustainability values carried by the brand. This shows that implementing an apron made of coffee-grounds-based vegan leather has the potential to increase consumers' ability to recognize and associate Work Unusual as an environmentally friendly coffee shop, which is at the core of green brand awareness (Tseng, 2013; Wang et al., 2020).

In addition to its impact on consumer perception, this solution also affects the internal organization. Staff feel increased professionalism and a stronger work identity through the use of a specially designed apron. This impact aligns with the findings of Joseph et al. (2016), who stated that

well-designed work attributes can improve work comfort and employee pride in the brand. Thus, the solutions offered affect not only external branding but also internal brand alignment.

When compared to previous research, the results of this study show distinct and complementary contributions. The studies of Tu et al. (2012) and Joseph et al. (2016) emphasized the role of work uniforms in shaping company image, but did not specifically link them to green brand awareness and sustainable materials. Meanwhile, Yeh et al. (2020) examined sustainable aprons in the hospitality context but did not yet integrate the use of organic waste as a key material in work attributes.

On the other hand, the research of Tian et al. (2022) and Kim et al. (2022) focused on developing coffee-based vegan leather materials from technical and material aspects, without connecting them to branding strategies and visual communication. The novelty of this research lies in integrating these three aspects—green brand awareness, the apron as a visual medium of work attributes, and the use of coffee-grounds-based vegan leather—in the coffee shop context. By combining the three, this study fills a research gap that has not been widely addressed in previous studies.

## CONCLUSION

This research was conducted to respond to the problem of low green brand awareness in coffee shops that have implemented sustainability practices but have not been able to communicate these values effectively to consumers. The main purpose of the research is to design a staff apron made of coffee-grounds-based vegan leather as a functional and strategic product medium to optimize green brand awareness at Work Unusual. This research departs from the urgent need for concrete, consistent, and integrated visual media in daily operational activities to bridge sustainability practices with consumer perceptions. The main findings of the study show that limitations in visual media are a significant factor causing sustainability values not to be firmly internalized in the minds of customers. Aprons as work attributes have a strategic position as brand touchpoints that are repetitive and easily recognizable in service interactions. The use of coffee-grounds-based vegan leather has proven to be functionally, aesthetically, and symbolically relevant, as well as representing circular economy principles that align with the character of the coffee shop. The integration of apron design and sustainable materials has the potential to strengthen consumers' ability to recognize, remember, and distinguish Work Unusual as a brand committed to environmental issues.

The main contribution of this research lies in enriching sustainable design and green branding studies through the integration of work attributes as a medium for communicating environmental values. This study goes beyond previous research by linking green brand awareness, apron design, and coffee-waste-based vegan leather within a single contextual coffee shop framework. Thus, this study confirms that functional product design can play a strategic role in building sustainable brand perception. The limitation of this study lies in the scope that focuses on one research object and has not measured the longitudinal impact of implementation on changes in consumer behavior. Therefore, further research is recommended to test the effectiveness of sustainable work attributes in different types of coffee shops, to combine quantitative approaches, and to explore their influence on brand loyalty and consumer purchasing decisions in a sustainable manner.

## REFERENCES

- Alamsyah, D., Othman, N., & Mohammed, H. (2020). The awareness of environmentally friendly products: The impact of green advertising and green brand image. *Management Science Letters*, 10(9), 1961–1968. <https://doi.org/10.5267/j.msl.2020.2.018>
- Andriyani, D., Rahmawati, R., & Hidayat, A. (2020). Green marketing strategy and its impact on brand awareness and customer loyalty. *Journal of Environmental Management and Tourism*, 11(5), 1123–1132. [https://doi.org/10.14505/jemt.v11.5\(45\).08](https://doi.org/10.14505/jemt.v11.5(45).08)

- Chkanikova, O., & Lehner, M. (2015). Private eco-brands and green market development: Towards new forms of sustainability governance in the food retailing. *Journal of Cleaner Production*, 107, 74–84. <https://doi.org/10.1016/j.jclepro.2014.12.078>
- Chowdhary, P., Bharagava, R. N., Mishra, S., & Khan, N. (2019). Role of industries in water scarcity and its adverse effects on environment and human health. In *Environmental concerns and sustainable development: Volume 1: Air, water and energy resources* (pp. 235–256). Springer. [https://doi.org/10.1007/978-981-13-5889-0\\_12](https://doi.org/10.1007/978-981-13-5889-0_12)
- Durán, N. S. (2024). *Exploration of Arabica coffee ground waste for sustainable textile dyeing and apparel design* (Doctoral dissertation, Washington State University).
- Ha, M., Ngan, V. T. K., & Nguyen, P. N. D. (2022). Greenwash and green brand equity: The mediating role of green brand image, green satisfaction and green trust and the moderating role of information and knowledge. *Business Ethics, the Environment & Responsibility*, 31(4), 904–922. <https://doi.org/10.1111/beer.12414>
- Han, H. (2021). Consumer behavior and environmental sustainability in the hospitality industry. *Journal of Sustainable Tourism*, 29(8), 1278–1295. <https://doi.org/10.1080/09669582.2020.1829758>
- Joseph, N., Alex, N., & Kuriakose, J. (2016). Influence of employee uniform on customer perception in service industry. *International Journal of Applied Business and Economic Research*, 14(6), 4567–4578.
- Kim, H., & Kim, S. (2022). Bacterial cellulose biocomposites reinforced with coffee grounds for sustainable bio-leather applications. *Carbohydrate Polymers*, 278, 118963. <https://doi.org/10.1016/j.carbpol.2021.118963>
- Murtiningsih, D., Sari, R. P., & Nugroho, A. (2025). Green brand awareness and green brand trust as mediating variables in green marketing strategy. *Jurnal Manajemen dan Kewirausahaan*, 27(1), 45–58.
- Nazwa, N., Setiyorini, H., & Gitasiswhara, G. (2025). Circular economy practices by upcycling waste product creation at local coffee shop. *Entrepreneurship Bisnis Manajemen Akuntansi (E-BISMA)*, 487–508.
- Nohekhan, M., & Barzegar, M. (2024). Impact of green marketing strategy on brand awareness: Business, management, and human resources aspects. *arXiv*. <https://doi.org/10.48550/arXiv.2401.02042>
- Pancić, M., Serdarušić, H., & Čučić, D. (2023). Green marketing and repurchase intention: Stewardship of green advertisement, brand awareness, brand equity, green innovativeness, and brand innovativeness. *Sustainability*, 15(16), 12534. <https://doi.org/10.3390/su151612534>
- Papadopoulou, M., Papisolomou, I., & Thrassou, A. (2022). Exploring the level of sustainability awareness among consumers within the fast-fashion clothing industry: A dual business and consumer perspective. *Competitiveness Review: An International Business Journal*, 32(3), 350–375. <https://doi.org/10.1108/CR-07-2020-0095>
- Saxena, V. (2025). Water quality, air pollution, and climate change: Investigating the environmental impacts of industrialization and urbanization. *Water, Air, & Soil Pollution*, 236(2), 73. <https://doi.org/10.1007/s11270-024-07312-5>
- Sun, H., Xu, X., Kim, H., Jung, W., Zhou, W., & Shao, Z. (2023). Electrochemical water splitting: Bridging the gaps between fundamental research and industrial applications. *Energy & Environmental Materials*, 6(5). <https://doi.org/10.1002/eem2.12441>
- Tian, X., Li, Y., Zhang, L., & Chen, J. (2022). Preparation and characterization of coffee-ground biocomposite leather. *Journal of Cleaner Production*, 334, 130243. <https://doi.org/10.1016/j.jclepro.2021.130243>
- Wang, J., Wang, S., & Li, J. (2020). Green brand awareness and consumers' purchase intention: Evidence from eco-friendly products. *Sustainability*, 12(24), 10564. <https://doi.org/10.3390/su122410564>
- Yang, M., Chen, L., Wang, J., Msigwa, G., Osman, A. I., Fawzy, S., Rooney, D. W., & Yap, P.-S.

(2023). Circular economy strategies for combating climate change and other environmental issues. *Environmental Chemistry Letters*, 21(1), 55–80. <https://doi.org/10.1007/s10311-022-01515-2>

Yeh, S. S., & Chen, C. L. (2020). Sustainable apron design and its impact on brand image and green brand awareness in hospitality. *Sustainability*, 12(18), 7421. <https://doi.org/10.3390/su12187421>