

THE INFLUENCE OF SUSTAINABLE SUPPLY CHAIN ON MOBILE PHONE PURCHASING AMONG GENERATION Z IN THAILAND: A CASE STUDY OF A PRIVATE INTERNATIONAL UNIVERSITY

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ABSTRACT

This study examines how sustainable supply chain practices in the mobile phone industry influence the purchasing decisions of Generation Z consumers. The research surveyed 403 Generation Z consumers at a private university in Thailand, using quantitative methods such as linear and multi-linear regressions, along with descriptive and inferential analysis, to assess the impact of sustainable versus unsustainable supply chain structures on decision-making. The findings indicate that sustainable supply chain practices—especially those that ensure transparency throughout the production and operational processes—positively influence Generation Z's preference for sustainable mobile phone brands. Furthermore, brands that prioritize sustainability are perceived as offering added value, establishing a competitive advantage in the market.

Keywords: Generation Z, Sustainable Supply Chain, Decision Making, Competitive Advantage, Value-adding

บทคัดย่อ

การวิจัยนี้มุ่งหมายเพื่อศึกษาว่าการปฏิบัติด้านโซ่อุปทานที่ยั่งยืนในอุตสาหกรรมโทรศัพท์มือถือส่งผลต่อการตัดสินใจของผู้บริโภคเจนเนอเรชัน Z อย่างไร โดยได้ทำการสำรวจผู้บริโภคเจนเนอเรชัน Z จำนวน 403 คนจากมหาวิทยาลัยเอกชนแห่งหนึ่งในประเทศไทย ด้วยวิธีการเชิงปริมาณ เช่น การวิเคราะห์การถดถอยเชิงเส้นและการถดถอยเชิงเส้นพหุคูณ รวมถึงการวิเคราะห์เชิงพรรณนาและเชิงอนุมาน เพื่อประเมินผลกระทบของโครงสร้างโซ่อุปทานที่ยั่งยืนและไม่ยั่งยืนต่อการตัดสินใจ ผลการวิจัยแสดงให้เห็นว่าการปฏิบัติด้านโซ่อุปทานที่ยั่งยืน โดยเฉพาะการที่มีความโปร่งใสตลอดกระบวนการผลิตและการดำเนินงานนั้น ส่งผลบวกต่อการตัดสินใจของ เจเนอเรชัน Z ในการเลือกซื้อโทรศัพท์มือถือ นอกจากนี้ ยี่ห้อที่ให้ความสำคัญกับความยั่งยืนยังถูกมองว่ามีมูลค่าเพิ่ม ทำให้ได้เปรียบทางการแข่งขันในตลาด

คำสำคัญ: เจเนอเรชัน Z โซ่อุปทานที่ยั่งยืน การตัดสินใจ ความได้เปรียบในการแข่งขัน การเพิ่มคุณค่า

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INTRODUCTION

Climate change, global warming, the increase in CO₂ emissions, and unsustainable practices by industries and their supply chain structures have negative effects, influencing the environment society, and economic developments, such as population growth, resource deficiencies, and a growing inequality in income distribution, are among the biggest challenges confronting today's society (The United Nations Environment Programme, n.d.).

Sustainability businesses and supply chain structures may be more reputable, respectable, and less vulnerable to risk. However, a modest proportion of Thai consumers welcome a chain structure that helps the environment if informed about their products' sustainability processes and practices. (Bangkok Post, September 22, 2022,).

The development of electronic garbage, produced by the mobile phone industry and manufacturing unsustainable practices together within the supply chain structure and the passive mode of consumers, are serving to maximize the environmental problem (Seifian, Shokouhyar & Bahrami, 2023).

Generation Z is becoming the largest customer group in Thailand (McKinsey & Company, 2023). Therefore, they gain strong purchasing power and attractiveness to mobile phone providers.

However, options might be presented to consumers in Thailand who may be considering changing attitudes toward buying phones from sustainable manufacturing and their supply chains if they can gather detailed information about their products for final purchasing decisions.

However, the study explores how customers' awareness regarding sustainability, and attitudes, influence purchasing decision-making toward mobile phones manufactured under sustainable supply chain structures, adding value to the final product, and becoming a competitive advantage for mobile phone providers.

PROBLEM STATEMENT AND OBJECTIVES

Supply chain structures are not using sustainable practices, because this change includes new investment, structure alterations, the implementation of modern technologies, and knowledge. (Min & Galle, 2001) On the other hand, these new challenges could contribute to long-term benefits for the organizations. Moreover, previous research reveals, that large groups of Thai consumers show environmental value. Therefore, sustainable supply chain practices and recycling initiatives can shape, decision-making toward distinct brands within Generation Z in Thailand.

The research objective is to explore the correlation between Sustainable Supply Chain structure in the mobile phone industry to Thai Generation Z consumers when deciding to buy a mobile phone, focused on how sustainability influences the purchasing decision-making of a mobile phone within this generation when there is a strong structure from the Mobile phone brand that sustainable practices are at the company's core. Therefore, the research objectives are:

1. To determine whether sustainable supply chains and transparency practices within the mobile phone industry influence Generation Z's purchasing decisions.
2. To determine whether the sustainability of the mobile phone industry's supply chain and transparency practices add value to their products.
3. To determine the factors influencing Generation Z consumers to purchase a sustainable mobile phone.
4. To examine whether the sustainability of the supply chain and transparency practices assist the mobile phone company in obtaining a competitive advantage.

RESEARCH HYPOTHESIS

H(o): Sustainable supply chain practices do not affect Thai Generation Z's decision-making when buying a mobile phone. Regardless of whether sustainability is part of the mobile phone supply chain structures, Generation Z buyers would accept their mobile phones as sustainability is not an issue of concern.

H(a) Sustainable supply chain practices affect Thai Generation Z decision-making when buying a mobile phone. Therefore, Generation Z is willing to buy smartphones from brands that use sustainability from end to end, starting with raw materials, and suppliers during the manufacturing and operational processes including transportation to the end line where the buyer purchases their mobile phone.

This research focused on mobile phones as a product and Generation Z within a private university as the target group and how mobile phone brands that are transparent in the sustainable processes along the supply chain, can influence the purchasing decision-making amongst this group.

REVIEW OF RELATED LITERATURE

Sustainable Supply Chain

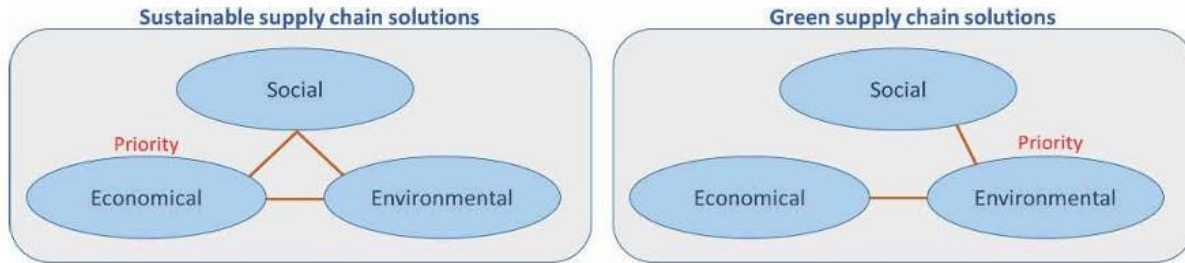
Sustainable supply chain focuses on the economic aspects as the main cause of sustainability, leaving social and environmental characteristics as variables that might determine a solution for the supply chain to be more competitive (Bányai & Kaczmar, 2021). However, using a sustainable supply chain has positive impacts, as the starting point in decision-making when buying products that will not negatively affect future generations' living standards.

Sustainability Supply Chain in the Mobile Phone

According to the International Telecommunication Union 73 percent of the global population aged ten and over, had a mobile phone in 2022, and in the Asia-Pacific region goes to 67 percent in the ownership of mobile phone rate. However, a report for the third quarter of 2023 states that in Thailand, the ownership rate of a mobile device is 95.7 percent. Moreover, the general assumption that the number of mobile phone holder's increases is proportional to electronic waste.

Consequently, implementing sustainable practices in the mobile phone industry is important to minimize the negative impacts on the environment and Thai society.

Figure 1: Comparison Between Sustainable and Green Supply Chain Solutions



Source: Bányai & Kaczmar (2021)

Sustainability Supply Chain in the Mobile Phone

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Sustainability as a Competitive Advantage

A company has competitive advantages when it creates profits that surpass the industries (Porter, 1985). According to Porter's Hypothesis: “Strict environmental regulations do not inevitably discourage competitive advantage against rivals; certainly, they often boost it (Porter, 1991). Organizations believe that being sustainable will deliver value and increase competitiveness (Gupta & Benson, 2011). Sustainability practices can lead to innovation, becoming a competitive advantage, and making the supply chain valuable. Originating assistance can reduce resource use and waste, affecting the environment, and society, in addition to increasing profitability in the long term (Nidumolu, Prahalad, & Rangaswami, 2013b).

Consumer Behavior Towards Sustainable Supply Chain Practices and Engagement

Sustainable Consumption

Sustainable consumption is the correlation between environmental social, and economic purposes, the purchasing and usage of products, with the mission of seeking global benefits for the present and coming generations (Phipps, Ozanne, Luchs, Subrahmanyam, Kapitan, Catlin, Gau, Naylor, Rose, Simpson, & Weaver, 2013). Consumer Engagement in Sustainable Consumption recognized six factors, which have been clarified to identify consumer engagement in sustainable consumption, such as attitudes towards the environment, perceived responsibility, perceived behavioral efficiency, conditions for the Supply Chain, social environment, and promotion of Supply Chain. (Piligrimienė, Žukauskaitė, Korzilius, Banytė, & Dovalienė, 2020a).

Environmental Attitudes: A credible personal belief in the significance of defending the environment, can induce sustainable consumption.

Perceived Responsibility: While individuals feel a sense of responsibility toward the environment, the upcoming generation will become more likely to engage in sustainable practices.

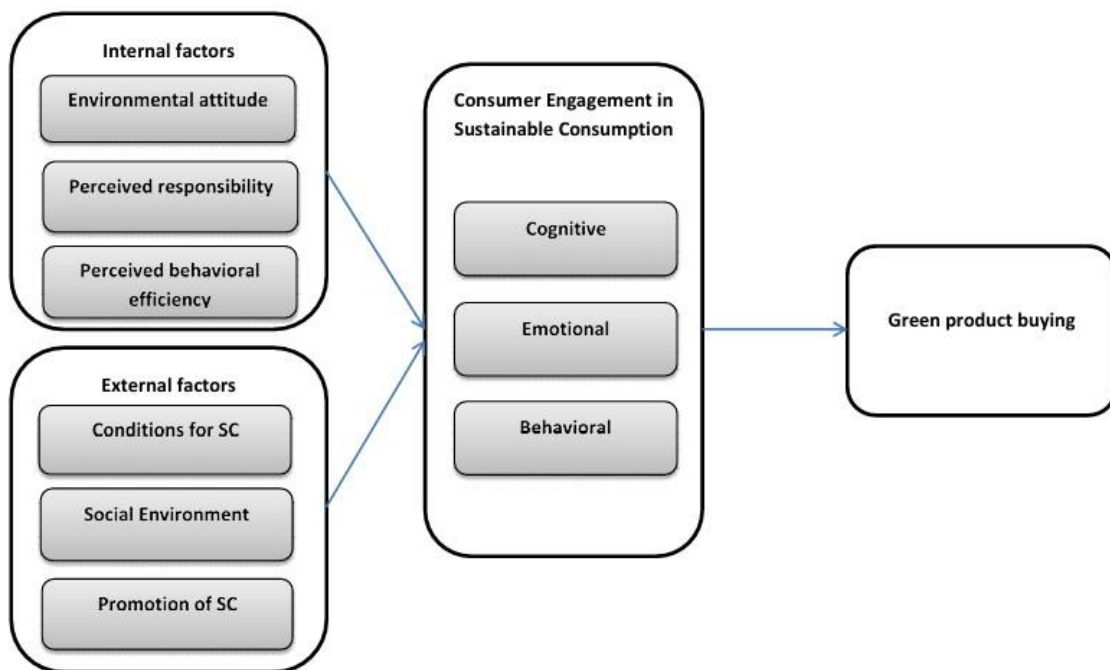
Perceived behavioral responsibility: Describes an individual’s belief that one action can effectively stimulate sustainable consumption.

Conditions for sustainable consumption (SC) (Infrastructure constraints: Availability and accessibility to sustainable products play a crucial role, if sustainable options are easy to find and purchase, consumers are more likely to choose them.

Social Environment: Social norms and behaviors can remarkably influence sustainable consumption if sustainable practices are normal in a community. Therefore, individuals are more likely to implement them.

Promotion of SC (Incentives): Successful marketing and communication strategies that emphasize the values of sustainable products can persuade consumer commitment.

Figure 2: Framework of Factors Influencing Consumer Engagement in Sustainable Consumption and Green Product Buying



Source: Piligrimienė, Žukauskaitė, Korzilius, Banytė, and Dovalienė (2020)

Emotional Values toward Sustained Supply Chain products

Customers' perceptions will contribute positively to how they build a trustful, and emotional relationship, related to their purchasing intention, and how much they are willing to pay premium prices for sustainable products of their brands (Kim & Lee, 2018). Self-brand connection is the intensity into which the customer connects the perceived brand product value to his or her self-concept (Moore, & Homer, 2008) to connect the perfect self to the product's image, affecting buying behavior. Keller (2001) declares that the self has some dimensions, where the customer is willing to express the ideal self that he/she wants to be between several magnitudes of the self by buying the product, while customers become aware of the product's SSCM characteristics, they become aware that the product is valuable (Keller, 2001).

Transparency practices of the mobile phone industry

There is a tendency for an absence of information regarding the management of the entire supply chain structure to the transparency of sustainable products in general. Consequently, when end customers do not have the chance to gather full information, about the challenge during the product manufacturing and transformation at any stage of the supply chain, such as the allocation and extraction of the raw material needed for the elaboration of the mobile phone components it harms consumers awareness about the product (Kurz & Binder, 2022).

Factors that influence mobile phone purchasing.

Purchasing behavior in the mobile phone industry is influenced by several interrelated factors such as technological innovations, brand perception, marketing strategies, and personal preferences. However, a critical influence on purchasing behavior is brand loyalty, which comes from previous positive experiences, social media reviews, and the general observation of the brand (Nathan, Kaikini, Noorjahan, Santhosh, Acharjee & Sridharan, 2023). Factors influencing young customers' purchase intention towards smartphones show that a positive brand image of mobile phones makes it more likely that people will talk about it, through word-of-mouth and other social channels, such as friends, family, peers, and in the media (Nathan et al., 2023).

Generation Z

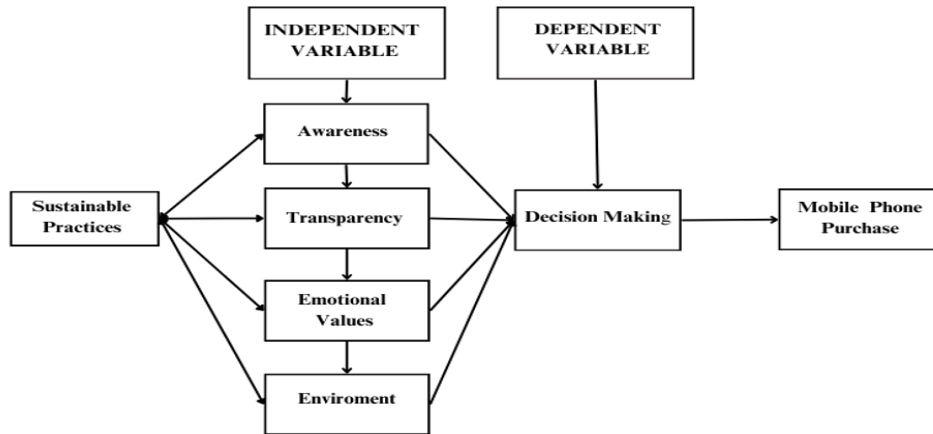
Thai consumers show outstanding concerns about the biospheric, and natural environment values connected to the self-centered values of self-interest (Sony & Ferguson, 2017). However, Generation Z is a curious group willing to try new things, and they are willing to pay premium prices if the products fit their personality uniqueness making them a valuable consumer, characterized as being fully digitalized, and fully integrated into the digital world (Mate, Mario, & Hrvoje, 2024).

CONCEPTUAL FRAMEWORK

The conceptual framework involves the independent variables, sustainable practices and the dependent variables, Generation Z purchasing decision-making, and several moderating variables such as supply chain transparency practices. The study shows the influence of sustainable practices from the supply chain structure of mobile phone makers on Generation Z purchasing decision-making, and a correlation within several moderating variables such as decision-making toward sustainable and unsustainable supply chain, the importance of phone footprint and supply chain

practices to minimize global warming, the level of buyers' awareness and knowledge of sustainability supply chain structures, the considerations to take previously phone purchases, and how sustainability supply chain practices and decision making contribute to the future purchases.

Figure 3.1: Conceptual Framework



RESEARCH METHODOLOGY

The research allowed a descriptive questionnaire, constructed, and adapted from the literature review divided into five sections with a total of twenty-eight questions with a mix of multiple choice, ranking position according to preferences, scores 0 to 3, and yes or no answers, which gave the respondent a variety of optional answers. The first section contains ordinary questions and the demographics of the respondents. The second section gathers information about the decision-making when purchasing a mobile phone, to collect data about the strengths of deciding on a mobile phone, and how sustainable supply chain structures can influence decision-making, connecting with section three, where respondents' awareness toward sustainability is collected, followed by the considerations and engagement during the search for sustainability concepts and the last part of the survey is concerned with brand loyalty and the willingness to switch brands and pay extra if the mobile phone brands are under sustainable practices and processes.

The questionnaire was generated in English and delivered to respondents by scanning a QR code linked to a Google Form where the full questionnaire was downloaded, and it was directed to respondents all belonging to Generation Z from a private university, representing the population of private universities in Thailand. To guarantee the reliability and validity of the survey a pilot test was conducted with a group of ninety-seven participants from the target population. The primary objective of the pilot test was to identify any uncertainties along the questions of the survey and the lack of understanding of the questioning content. The participants were asked to complete the survey and during the process of answering questions, the respondents provided feedback on the clarity and length of the survey and any technical difficulties. Based on the feedback during the pilot test, the results indicate that the survey was well received, and the understanding of the questioning content indicates that the survey is appropriate in the data

collection for the study. The final number of respondents that contributed to this study was 403 to ensure a strong and consistent statistical analysis.

Cronbach’s Alpha: A reliability test is applied to confirm the correlation between different items of the same test, to observe that answers to related questions in the same class of questions produce comparable results.

Hypothesis test: This is employed to demonstrate the relationship between sustainable supply chain practices and Generation Z decision-making using correlation analysis. The statistical significance was calculated according to the p-values less or equal to 0.05 for rejecting or accepting the null Hypothesis.

Pearson’s correlation: Applied among variables to see the intensity within them and how can be correlated to decision-making towards Generation Z mobile phone purchasing decisions.

Regression Analysis To understand the relationships between the dependent variable, decision-making when Generation Z’s buyers from private universities buy a mobile phone from sustainable supply chain structures to the independent variable, how transparent those structures, buyer’s eco-friendly attitudes, awareness of sustainable processes, and environmental concerns caused by unsustainable supply chain structures.

FINDINGS AND DISCUSSION OF RESULTS

The method used to analyze the data was through data visualization, and statistical data using some statistical tools to interpret the data using hypothesis testing, correlation, and regression analysis. The hypothesis of this research was considered to be confirmed or rejected. Cronbach’s alpha reliability test is used to measure the correlation between decision-making, awareness of sustainable practices, the considerations of buyers before they buy a mobile phone, and brand loyalty/willingness to switch brands when transparency of sustainability is fully displayed by the mobile phone companies. Cronbach’s alpha reliability test (Table 1) is measured as follows: $0.70 \geq \alpha \geq 0.60$ indicating acceptable internal consistency, $0.80 \geq \alpha \geq 0.70$ of good internal consistency, and $0.90 \geq \alpha \geq 0.80$ of particularly good internal consistency. Therefore, the values of the test indicated that the survey shows consistency in data collection.

Table 1: Cronbach’s Alpha Reliability Test

| | |
|--|------------|
| Decision Making | Alpha 0.69 |
| Awareness of sustainable practices | Alpha 0.87 |
| Consideration of buyers before mobile phone purchase | Alpha 0.85 |
| Brand Loyalty/ Willingness to switch brands when the transparency of sustainability is fully displayed | Alpha 0.71 |

The P-value (0.032649) is less than the common significant level of 0.05, indicating that there is a statistically significant difference between the group means. Therefore, as the F crit (3.434658) is greater than the critical value (3.005466) the null hypothesis is rejected. In conclusion, the ANOVA test (Table 2) indicates that there are significant differences between the means of the groups. Particularly, the score of decision-making toward buying a mobile phone from a sustainable supply

chain is significantly influenced by the respondent's knowledge and awareness of sustainability practices and how these practices positively affect their purchasing decision-making.

Table 2: ANOVA-Hypothesis Test

| <i>Groups</i> | <i>Count</i> | <i>Sum</i> | <i>Average</i> | <i>Variance</i> | | |
|--|--------------|------------|----------------|-----------------|----------------|---------------|
| 1) Score your decision-making toward buying a mobile phone from Sustainable Supply Chain <i>Dependent</i> | 403 | 644 | 2.084142 | 0.778611 | | |
| 2) Score your knowledge and awareness about your mobile phone's Sustainability Supply Chain practice. <i>Independent</i> | 403 | 589 | 1.906149 | 0.741163 | | |
| 3) Score how sustainable practices along the supply chain may positively affect your purchasing decision-making when you buy a mobile phone. <i>Independent</i> | 403 | 615 | 1.990291 | 0.620035 | | |
| <i>Source of Variation</i> | <i>SS</i> | <i>df</i> | <i>MS</i> | <i>F</i> | <i>P-value</i> | <i>F crit</i> |
| Between Groups | 4.899676 | 2 | 2.449838 | 3.434658 | 0.032649 | 3.005466 |
| Within Groups | 659.0615 | 924 | 0.71327 | | | |

Table 3: Pearson's Correlation Test

| | Decision Making toward SSC | Decision Making toward NO-SSC | Importance of Phone Footprint | Importance of SSC to Minimize Global Warming | Knowledge and awareness about SSC | Consideration of buying from SSC | SSC practices affecting decision making | SSC might contribute. Future buying |
|--|----------------------------|-------------------------------|-------------------------------|--|-----------------------------------|----------------------------------|---|-------------------------------------|
| Decision Making toward SSC | 1 | | | | | | | |
| Decision-making toward NO-SSC | 0.56 | 1 | | | | | | |
| Importance of Phone Footprint | 0.50 | 0.46 | 1 | | | | | |
| Importance of SSC to Minimize Global Warming | 0.40 | 0.25 | 0.41 | 1 | | | | |
| Knowledge and awareness about SSC | 0.47 | 0.46 | 0.47 | 0.38 | 1 | | | |
| Consideration of buying from SSC | 0.45 | 0.35 | 0.47 | 0.40 | 0.49 | 1 | | |
| SSC practices affect decision-making | 0.42 | 0.33 | 0.52 | 0.40 | 0.44 | 0.70 | 1 | |
| SSC might contribute. Future buying | 0.42 | 0.31 | 0.46 | 0.47 | 0.44 | 0.57 | 0.55 | 1 |

Pearson's correlation test (Table 3) indicates that independent variables are correlated in decision-making, the observed values give a positive correlation from a moderate relationship between

decision-making from Generation Z, towards the intention of buying a mobile phone from a sustainable supply chain structure, and last, looking at the figures, we can interpret that a sustainable supply chain in the mobile phone industry affects purchasing decision-making.

Regression Analysis: The regression analysis shows the importance of sustainability practices to minimize global warming and climate changes has a positive effect on the decision-making score for buying a mobile phone from a sustainable supply chain, the F-statistic: (68.39): and the F(0.00) less than 0.05, confirm and indicate that the model is statistically significant by showing that the independent variable sustainability practices to minimize global warming and climate changes, predicts the dependent variable decision-making for buying a mobile phone from a sustainable supply chain. Moreover, when knowledge and awareness about sustainability practices are important to the influencers, the F-statistic (112.95): indicates that knowledge and awareness of the mobile phone sustainable supply chain practices can predict decision-making, and the F-value (0.00) confirms that the relationship is significant. The regression also confirms the relationship between eco-friendly attitudes from Generation Z buyers, sustainable practices, and a sustainable supply chain, the independent variables confirm a significant relationship to decision-making as the F-Values (0.00) is less than 0.05.

Demographic data shows that 55.3% of respondents were Female and 44.7% were male, among the whole group 83% were in the bachelor's program, 15.1% graduated from High school, and 1.2 % in master's degrees. However, among the entire population, 85% were also working and 14.9 % were in full-time student status, from which 89% of the respondents agree at some level that a sustainable supply chain structure influenced positively decision-making when purchasing a mobile phone. Asking about the responder's sustainability mindset such as being eco-friendly, 81% said yes, 72.2% supported recycling initiatives by the mobile phone industry and how important is and 75.9% confirmed that it is significant to know how the mobile phone industry manages and displays these initiatives, to be aware and be able to make the right mobile phone purchasing choice. Thus, 27.8% of the respondents are aware of the sustainable practices of mobile phone brands at a minimum level, 42.2% have a medium level of awareness, and 23.85% show confidence about the awareness and knowledge of sustainability standards of mobile phone brands.

Of the 403 respondents, 3% do not believe that sustainability has positive effects in minimizing environmental damage, and 45.9 % fully support the importance of sustainability to reduce global warming and climate change, the rest believe that sustainability has effects on the environment at some point, despite 77.2 % of respondents have concerns about the impact of unsustainable practices of their mobile phone brands. The outcome of the survey shows that 67% of respondents guide moderate implications between awareness and sustainability when they do the research for sustainable brands, in which mobile phone official websites are the number one choice, to gather information.

Attitudes and considerations toward sustainability are followed by 96% of the respondents who considered themselves to embrace eco-friendly practices in the purchasing of general products, from which 47.4% take this consideration seriously, 25.1% show strong consideration toward sustainability, and 22.1% look at sustainability as a consideration towards sustainability. On the other hand, brand and price were conditions holding more weight than environmentally friendly supply chain practices, but when asking about switching brands if sustainability is not part of the mobile phone manufactures, 72.5% of the respondents may consider switching brands in the future

if their current mobile phone brand is not sustainable and may consider paying above their budget if sustainability is allocated to their mobile phone brand supply chain structures, also 82% of the respondent believe that buying sustainable phones contribute positively to the environment becoming an emotional attach between the buyer and the mobile phone brand.

Brand loyalty is an important variable influencing purchasing decision-making, from which 4.2 % to 12.7% will not consider sustainability practices, will keep loyalty to the mobile phone brand in future purchases, and will still support their mobile phone brand regardless of whether it follows sustainable practices. However, when sustainability is applied, the data shows that 84% of the respondents are willing to recommend it to other peers, and 88.1% of the Generation Z group believe that sustainability supply chain practices can be used as one of the mobile phone selling points.

CONCLUSIONS AND RECOMMENDATIONS

The regression and correlation analysis shows that the sustainability supply chain structure in the mobile phone industry will have an effect at some levels, in decision-making among Generation Z buyers from private universities in Thailand, there is a moderate positive correlation within independent variables. On the other hand, the regression testing showed concerns from the respondents about the sustainability effect on the environment, their awareness of the sustainable practices within the mobile phone brands, and the intensity of respondent attitudes toward eco-friendly products, which will have some effect on decision-making in their future mobile phone buying. The hypothesis evaluated, the Null hypothesis (Ho) of Sustainable supply chain structures does not affect Thai Generation Z's decision-making when buying a mobile phone, is rejected. Thus, the hypothesis shows that sustainable supply chain practices do have a statistically significant effect on buyers' decision-making when buying mobile phones. Therefore, Generation Z showed attitudes and considerations when accepting that their mobile phones are sustainable, and also are aware that their actions will affect the environment becoming an issue of concern.

The research explores how sustainable supply chain structure within the mobile phone industry, can influence a specific group, therefore the selected group is Generation Z within private universities in Thailand. The results showed that this generation will be influenced at some level by how sustainable their mobile phone brands are. However, brand loyalty still plays a significant role, as responders' considerations toward unsustainable brands are not consistent when linked to their primary brands, leaving a gap that when the mobile phone brand is not under sustainable practices, respondent attitudes might put loyalty before sustainability. Nevertheless, the research found that most of the group is aware of the sustainable practices of their brands, how sustainability positively affects the environment and how important is to change attitudes toward mobile phones that are produced by organizations that focus their strategies and company culture along sustainable supply chain structures and practices. Although, the mobile phone industry when sustainability practices are within the supply chain structure, respondents agree that value is added to their products and willingness to pay extra if promote these practices in the industry when they buy future mobile phones.

Recommendations to the mobile phone manufacturers to influence decision-making in Generation Z toward buying their mobile phones:

Increase transparency: The mobile phone makers should be transparent about their supply chain structure, how it is managed, what actors are involved, and the practices throughout the entire process of the production of mobile phones. However, these procedures must be in line with sustainable practices. The study outcomes showed that Generation Z values trust in their brands. In addition, how their brand cares for the environment are important to them. Therefore, they are willing to support brands that show care for the environment and are sustainable. Thus, a clear and transparent supply chain will transfer positive information to customers, influencing the final decision-making.

Promote sustainability education: Promoting education on the negative impact of unsustainable practices and how they will affect the environment and the future of the next generations. Sharing information about how mobile phone brands are helping the environment by applying sustainability in the supply chain and their positive impact, In addition to emphasizing the long-term benefit of applying sustainability management in the supply chain, will induce customers toward sustainable brands.

Increase the use of recycled and renewable material: List of all the components of a mobile phone that are recycled and renewable, classified during the production process. This will help to reduce electronic waste. Therefore, displaying this information to buyers will make them more conscious and aware of how recycling and the reuse of materials have a positive effect on the environment by reducing waste and being more efficient in the management and acquisition of raw materials from natural sources.

Reduce CO2 emissions: Generation Z knows that CO2 emissions are the main cause of global warming. Therefore, the supply chain needs to focus on renewable and clean energies, mainly in transportation and logistics, Generation Z buyers showed a willingness to put effort into the mobile phone organizations to be sustainable, by using electrical transportation as an alternative mode to deliver their mobile phones. This will contribute to minimizing CO2 emissions.

Build clear and sustainable goals: The mobile phone industry should be more initiative-taking in aligning its supply chain structure with sustainable strategies and set up measurable targets, where all member of the supply chain clearly understands their task within the sustainable supply chain structure. Therefore, the organization's culture should be fully focused and aligned with sustainable practices and processes from end to end, from the suppliers to the end consumers.

Collaborate with all the members along the supply chain structure: Mobile phone makers should build a good and truthful relationship with suppliers to promote and ensure that they are aligned with sustainable procedures. Therefore, consumers should be able to gather information about the full relationship among the actors in the supply chain is sustainable.

Engage with customers: Create initiatives by the mobile phone brands to engage with customers by making them part of the sustainable procedures such as rewards for choosing sustainable

options, any kind of incentive that promotes sustainability, and trade-in programs. In addition, mobile phone organizations might focus not only on engaging with single customers but with communities where Generation Z can share common experiences and extras related to the usage of sustainable mobile phones. Therefore, they can build a sense of belonging to a sustainable community promoting full commitment to a sustainable cause.

Recommendations for future research: First, expanding the research to the Generation Z overall population, not only to private universities to take a broad view of the outcomes of the study, and see if they are similar to the results of this research. Second, during the data collection, additional brand names of the mobile phones will add precise information to the research, linking sustainability and brand loyalty to buyers. Third, face-to-face interviews will facilitate getting better information, as electronic surveys may give less precise evidence. Fourth and Last, a follow-up of several years will help to verify more accurate information if sustainability is affecting decision-making or is only provisional because of being exposed to environmental issues by the media.

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