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The Role Of AI And Emotions In Strengthening Green Intentions: Mediated Moderation Analysis

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Abstract

This study works towards the relationship of using AI (artificial intelligence), namely AI-PR(AI-based personalized recommendations), on consumer green product awareness (GPA), aimed at the online shopping is used in this study. Although AI-driven technologies are changing the way products are interacted with by consumers, their impact on green buying behavior is unknown. As it was recognized that human cognitive and emotional factors may affect AI's ability to promote sustainable choices, this study included emotional intelligence (EI) as a moderating variable. Based on this, the research aims to dig deeper into the role of AI upon these compounds (e.g. AI, AI-PR and EI) on environmental consciousness.

The descriptive research method is used to study under which conditions data was collected using self self-administered survey to 403 respondents. The descriptive approach renders various dependence relationships among AI-based recommendations, emotional intelligence and consumers' knowledge on green products, available for study. The study achieves this by conducting a class-based statistical summary and comparative analysis of the behavioral tendencies that make AI effective in dictating how consumers can make sustainable choices.

These findings suggest that AI-based and AI usage make an important contribution to increasing the green product awareness of consumers. However, emotional intelligence moderates such a relationship. Secondly, individuals with higher emotional intelligence have a stronger positive correlation between perceived AI usage and GPA, namely, emotionally intelligent consumers are more willing to accept the selling of their sustainable product through AI messaging. Conversely, emotional intelligence negatively moderates the relationship between AI-PR and GPA, meaning that highly emotionally intelligent individuals may be less influenced by AI-based personalized recommendations, whereas those with lower EI show a stronger response to AI-driven suggestions. Furthermore, this study contributes towards growing discourse on the intersection

of AI, consumer behavior, and sustainability, highlighting the need for a balanced approach that integrates technology with human cognitive factors to drive positive environmental change.

Keywords: AI-personalized recommendations, Emotional Intelligence, Green Product awareness, Green behavioural intentions, Mediated moderation.

Chapter1

Introduction

The way people engage with goods and services has been changed because of the quick embrace of Artificial Intelligence in our daily lives mainly in e-commerce(Gkikas & Theodoridis, 2022a). The usage of AI includes Suggestions to enhance the shopping experience by giving better suggestions on what to buy at what price moreover environmentally friendly items and sustainable method are becoming popular, but AI connects Technology with the encouragement of environment-friendly consumer behavior, it is necessary to comprehend not only technical aspects but also human emotions for decision making(Puntoni et al., 2021). This study investigates the effect of emotional intelligence in influencing things and how AI gives the suggestions and affects consumer knowledge of products(Bawack et al., 2022; Thiebaut, 2019). By revealing these connections, the study offers valuable information to marketers and companies looking to promote environment friendly decisions using cutting-edge technologies(Gkikas & Theodoridis, 2022a).

The evolution of e-commerce, as well as the increasing demand of consumers for environmentally friendly products, have a number of consequences for marketers. To navigate this evolving landscape, e-commerce businesses must prioritize a dual agenda: explaining consumer participation and introducing the use of Artificial Intelligence as a way of making the shopping experience as individualistic as possible. This includes the concept of environmentally sustainable customers by advocating for and encouraging the use of environmentally friendly products. Besides, through the integration of such concepts, AI creates a customer-centric e-commerce branding experience that is emotional and aimed at building brand and product trust. 1 As the world shifts to more digital applications, the challenge marketers face is making the UI/UX more appealing In addition, incorporating AI in e-commerce enables consumers to have an emotionally connected, trusting engagement with brands and products(Hermann, 2023).1 As all industries are rapidly turning digital, it is crucial for marketers to improve UI/UX and at the same time aim for sustainability across the value chain: production, transportation, and even product design. Of environmentally sustainable customers by advocating for, and encouraging the use of environmentally friendly products. In addition, through such integration, AI enables a customer-driven e-commerce experience that is emotional and seeks to foster brand and product trust. 1 As the world becomes increasingly digital, marketers face the challenge of improving the UI/UX and at the same time ensuring sustainability through the whole value chain starting with production and delivery, packaging to products. Mentally conscious consumers by promoting and recommending green products.

That is why AI is significant for raising sustainable development profiles across the e-commerce industry(Tariq et al., 2022). This pressure caused consumers to demand environmentally friendly products, and to be in line with this the e-commerce business has incorporated a number of techniques in the carrying

out of their business; green supply chain management, green packaging, and quality sections that contain green products. This shift towards the sustainable future is not just reflected in the consumers' actions but is gradually paving the way to a sustainable future(Nekmahmud et al., 2022). Moreover, in services, AI has a feature in promoting brand identity and helping the consumer find more sustainable brands.

However, lack of awareness of green products is the main reason that consumers fail to adopt sustainable products. More specifically, the purpose of this research is to ascertain the relative influence that perceived AI usage has on increasing consumer knowledge of green products. The customer who cares for the environment needs recommendations and worthwhile services of the AI system(Cheng & Jiang, 2022). The task of managing this relationship is facilitated by human emotions that are heightened in this area and further underlines the centrality of emotional intelligence (EI) in this respect. It has been established that emotions cause both a qualitative and quantitative changes to flow through decision-making processes when engaged with AI, and also bias perceptions of people towards evaluating the advantages and disadvantages of AI. The combined effects of perceived usage, features of AI, and the role it can play in improving awareness about green products regarding the impact of emotional intelligence, have not been researched in extant literature(Bhardwaj et al., 2023). Based on these headings, particularly, the roles of technology and sustainable development, the outlined part of the paper focuses on the application of emotional intelligence. The following research questions will be used to guide this study: This study aims to establish the relationship between EI and AI in the area of green marketing by answering the following questions:

Ai is helping marketers to make sustainable impact on their practices and also helps in the enhancement for customer experiences marketers place high priorities on the sustainability(Tariq et al., 2022).AI has a significant impact on sustainable practices for marketers in addition to improving customer experiences. Marketers place a high priority on sustainability, responding to consumers' growing consciousness of eco-friendly items when purchasing online(Nekmahmud et al., 2022). A greener future is facilitated by the proliferation of sustainable solutions in e-commerce, which influences customer behaviour. Nowadays, a lot of e-commerce sites have sections just for eco-friendly products, increasing consumer accessibility. Furthermore, a lot of online retailers are making sure that their supply chains are managed sustainably, that their deliveries are eco-friendly, and that their packaging is sustainable.

Services created with AI help consumers find companies and become more aware of them. According to numerous surveys, there is a lack of knowledge about green products, which makes green purchasing difficult(Cheng & Jiang, 2022). In light of this, the current study investigates how the perceived application of AI can broaden consumers' understanding of eco-friendly products(Hermann, 2023). Furthermore, AI-based services and tailored suggestions can offer environmentally aware customers insightful information about eco-friendly items.Emotional intelligence is important because human emotions might have an impact on this relationship(Bhardwaj et al., 2023) . Emotions have influenced decision-making while utilizing AI , shaped perceptions of AI's benefits and drawbacks , and played an equally effective role in AI as human intelligence . The relationship between the idea of emotional intelligence (EI) and the perceived use of AI, its

characteristics, and how it can raise awareness of green products, however, has not yet been thoroughly examined in the literature. Knowing the importance of emotional intelligence becomes crucial in light of the present focus on sustainability and the domination of technology. The purpose of this study is to investigate how emotional intelligence influences the definition of the intricate connections between EI and AI in green marketing.

According to, eco-friendly consumers can also be said to demonstrate the success of advertising campaigns focused on green marketing in Internet commerce(Sharma et al., 2022a). On this basis, there arises a need to in addition, AIs enhance the AI's use or AI's recommendations to increase the understanding of green products and consequently change the attitude of consumers towards green purchases targeting the environment. To study such interrelations and these perspectives the current study applies a more developed approach to the SOR theory, which is the Stimulus-Organism-Reaction-Consequence (SOBC) model using Interactive Recommendation Agents (IRA). This framework seeks to answer the following research questions:

RQ1: In what ways does the perceived utilization of AI and AI-driven recommendations promote green purchasing behaviors?

RQ2: What significance does emotional intelligence hold in the context of AI utilization, recommendations, and the awareness of environmentally friendly products?

It is a major contribution to the areas of green marketing and AI marketing. In this first step, the authors present a new integrating method of SOBC and IRA model to study how consumers gain knowledge of green products in the online shopping environment based on the AI and AI-based recommendation (AI-PR) systems. It provides this far from trivial, comprehensive perspective on the role that AI will play in supporting green purchasing by adding to the existing literature. Second, the study also demonstrates with empirical evidence how the usage of AI does influence an individual's awareness of the green products, and the key mediator is the personalized AI recommendations' usage impacting the consumer intentions for greener behaviors. We conceptualize AI-PR as a mediator in that consumers' higher perception of AI usage induces their involvement with AI functionality. Personalized recommendations, which are an important part of AI, are essential in the e-commerce context, so according to our proposal consumers can take advantage of these features to increase the awareness of green products on the Internet. This methodology brings in a new angle which supplements our knowledge of the green purchasing model as it is viewed in existing literature. Finally, the research investigates the moderating influence of emotional intelligence. Practically, it would be beneficial to marketers in the real world who wish to promote green purchasing through the application of AI and AI based recommendation system on an online shopping platform, resulting to environmentally conscious consumer behavior.

CHAPTER 2.

Literature review

2.1 Theoretical background

Various theoretical constructs have been proposed to explain consumer behavior in relation to environmental factors, including the Values, Beliefs, and Norms theory (VBN)(Jansson et al., 2010), the Theory of Behavioral Choice(Tadajewski & Wagner-Tsukamoto, 2006), the Norm Activation Model (NAM)(Sharma et al., 2022b), and the Motivation-Opportunity-Ability (MOA) model. There is evidence from green marketing research that the theory of planned behavior (TPB) has been utilized(Amoako et al., 2020; Taufique & Vaithianathan, 2018). A powerful lever in understanding consumer behavior affected by environmental issues and their impact is the Stimulus-Organism-Behavior-Consequence (SOBC) the Stimulus-Organism-Response (SOR) of higher order. The nature of what is represented in S portion of the SOBC model — nature or the whole environment the SOBC model includes S, environment, O, objectives, B, resources, C, constraints — contains 4 elements.

Although the SOBC framework is relatively new in green procurement, the integration of artificial intelligence (AI) has spurred ongoing research into developing sustainable business models. This trend involves applying AI to today's online retail environment to enhance purchasing behavior.

About the analysis accepted in this paper, AI functions as the stimulants(S), while AI- substantiated recommendations are demonstrated as the organism(O). This approach aims to check the process wherein the knowledge of green products is converted into behavioral conduct(B) that impacts the intentions to engage in green geste (C) and accordingly produces different behavioral issues. In the study, Baker proposes 'organism'(O), in this case, AI- AI-substantiated recommendations recommendation, as a crucial prolocutor between perceived AI use and mindfulness of green products within SOBC's areas. Previous studies also concentrate on the part of AI-powered substantiated recommender systems as important intercessors making in-between conduct that follow one event. From a green perspective, it might be that these substantiated recommender systems could help end druggies effectively use AI to understand green products. Also, given the eventuality for consumers to laboriously engage online with a range of system interfaces across different retailers, it's accessible that retailers have sought to ameliorate the stoner experience and enhance commerce effectiveness with Intelligent agents, algorithms, and machine literacy.

1.As the stimulus (S) for this research, AI functions as the organism (O) and AI-personalized recommendations are identified. This study aims to investigate how awareness of green product impacts on behavioral action (B), which in turn affects intentions of performing or not performing green behavior (C) and subsequently leads to varying effects. Within the framework of SOBC, the O (AI personalized recommendations) is suggested as a key mediator between perceived AI usage and the development of awareness on green products. Previous studies have also demonstrated the importance of AI driven personalized recommendation system as mediators to promote earlier stimuli actions(Cheng & Jiang, 2022;

Kim et al., 2021). In the realm of sustainability, these AI influenced systems of personalized recommendation can help consumers effectively tap into using this technology to benefit from making well informed decision on Environment friendly products(Geninatti Cossatin et al., 2024; Zhang et al., n.d.). Additionally, since online shopping systems interfaces work dynamically with consumers and this requires optimum e-commerce operation and user experience, retailers have adopted the use of intelligent agents, algorithms and machine learning to enhance customer experience. The body of literature is in full agreement on the pivotal influence of Recommendation Agents in bringing in new products and information publication about products. Since the influence of marketing over consumer decision making is evident in suggesting contextually relevant suggestions based on previous interactions and purchase history, this has formed a role. Recommendation engines help consumers to make product discovery smooth, thus avoiding the need to search through the extensive catalogs and complex queries.

2. On the basis of this study, artificial intelligence (AI) is viewed as the stimulus (S) and the AI personalized recommendations are the organism (O). Thus, the primary intention is to explore the transition of awareness about the green products to the behavioral actions (B) to the intentions of green behavior (C), as well as the outcome(s). Within the SOBC framework, AI personalised recommendations are designated by research design as critical mediating link; between perceived AI usage and awareness of green product creation. Similarly, prior research has also identified AI driven personalized recommendation system as such a mediator to action guided by past stimuli. In their own self of a sustainability, these personalized recommendation systems can enable consumers to embrace AI to make better personalisation when it comes to the use of environment friendly products.

As an important tool to help clarify the intermediary role of AI constructed personalized recommendations on the link between AI usage perception of AI and its effects on Green Product Awareness (GPA), Interactive Recommendation Agents (IRAs) have been developed. Within this research, the integration of the SOBC framework enables the evaluation and understanding of environmentally conscious green purchasing behaviour jointly in a new fruitful and distinctive perspective by cost of IRA from the isomorphism and together with the tone of the SOBC framework. As it is shown in Fig. 1, the framework accurately shows to us the complexity of interactions inside it, and thusly the processes by which the application of AI as a force that can change awareness and intent to purchase green products. These dimensions consisted of different types of intentions regarding green behavior.

2.2 Perceived AI usage and AI-based personalized recommendations (AI-PR)

Fast-forwarding to the integration of AI services with the e-commerce sector means, artificial intelligence services have completely changed the method by which customers interact with online platforms in this fast evolving space. Many advantages are visible for both businesses and consumers, which are justified in establishing AI as an integral part of the e-commerce ecosystem. One of the reasons why AI has become important is that prior research has found that it can not only save the consumer a great deal of time by being

able to find appealing offers and discounts but also optimize cognitive function, supply personalization of ads or allow users to relay relevant transactions(Gkikas & Theodoridis, 2022b; Puntoni et al., 2021; Thiebaut, 2019). It elaborated on how AI driven features help in the overall purchase experience where the customer makes an informed decision without excessive expenditure of time. In addition, AI has a number of practical solutions related to particular customer needs.

To reach this end, advanced machine learning algorithms continually study the user preferences and behaviors in an effort to achieve the right outcome. This analysis enables the creation of highly relevant product recommendations that are very relevant to individual tastes and preferences for each customer and provides the customer centric nature to the ecosystem. According to. Consumers' experiences with AI and e-commerce might influence their perceptions of the ease of use of AI when shopping online, and the trust in AI based personalized recommendation system(Kim et al., 2021). As such, the notion has also been made that a positive attitude towards AI usage leads to positive involvement by AI driven personalized suggesting, which is overtaking the world of e-commerce and increasingly focusing on customer centricity. Therefore, online shopping is now an inseparable part of the artificial intelligence (AI).

H1: The utilization of AI promotes positive engagement through AI-PR in the context of online shopping

2.3 AI usage and green product awareness (GPA)

If people felt comfortable with artificial intelligence, this can boost the brand searches and improve the brand recognition. Additionally, when the shopping with AI is convenient and useful, it will help consumers seem products, pros, applications and overall results from it(Moore et al., 2022). It is clearly a challenge to define green products. Still, some organizations have tried to capture what 'green products' are. The Commission of the European Communities (2001) points out, for example, that 'green' products are those that are to use fewer resources, reduce environmental impact and risk, and mitigate waste generation from a product's beginning, design phase(Sharma et al., 2024). However, the ambiguity of information and awareness of green products requires consumers to be supported in learning about the product features, benefits, and impacts given the green connotation. For example, consumers have shown a particular interest in buying green products if and only if they captured the idea and understand benefits, both in terms of personal and environmental benefits. Perhaps, the convenience of shopping online that's enabled by AI not only saves time for consumers, but eases their effort to find green products and thus accelerates their awareness of green products. In the past, research on AI's usage helps consumers recognize green products. Therefore, we suggest that when consumers know that the application of AI contributes to the positive field of online shopping, consumers will seek for more informations about the products.

H2: The use of AI positively influences awareness of green products during online shopping.

2.4 AI-based personalized recommendations (AI-PR) and green product awareness (GPA)

Natural language processing (NLP) and semantic search are two of the AI-enabled technologies which are capable of understanding the user inquiries in context and in turn enable businesses to serve their potential customers more relevant contents. Furthermore, AI can make specific products recommendations to consumers, based on what they are searching for or what they have searched for earlier. A closed loop system can enhance customer awareness of green ways to shop, if it maintains a record of eco friendly items or

products related searches. By informing people on the product labeling, packaging and marketing actions, one can help achieve this. In this case out of consideration of the eco-friendly products(Geninatti Cossatin et al., 2024; Zhang et al., n.d.), it can be hypothesized that AI API driven personalized recommendations will enhance the consumer experience, generate predictives insights, and optimize commercial operation towards a final end expecting them to meet the customer eco friendly journey. With adequate infrastructure and offerings of tailored suggestions and detailed information on sustainable products, this increases the awareness and comprehension of the same by the consumers(Rehman Khan et al., 2021). Therefore, we propose the following hypothesis:

H3: AI-powered recommendations positively influence awareness of green products during online shopping.

2.5 AI usage, AI-based personalized recommendations (AI-PR) and green product awareness (GPA)

In the current environment, AI availability helps in personalization and personalization of customer experiences depending on every individual's preferences, history, and behaviors. When AI is integrated along with a delivery of AI driven personalized recommendations, the level of recommendation that people make based on what their blind users have done is crucial in informing people that there are diverse options. This is done via the input of AI algorithms which analyze large quantities datasets and suggest products that will be relevant to the consumer due to the fact that they introduce the consumer to things they normally won't. The same capability in the realm of green marketing can be used to analyze information about green products and highlight eco friendly products. Another line of recent studies has also studied AI based recommendation systems as mediators to know how they affect the consumers' experiences(Kim et al., 2021). The capability of AI based recommendation systems to pitch and promote environmentally friendly options to a wider audience by suggesting and recommending them on a personal and efficient basis can help achieve this ideally by increasing the visibility and promotion of green viable options to the targeted audience which can go a long way to foster more environmentally conscious consumer bases and further promote the cause of sustainability. Therefore, this leads to the following hypothesis.

H4: AI-PR has a mediating effect between AI usage and Green Product Awareness.

2.6 Green product awareness (GPA) and green behavioural intentions (GBI)

Green products refer to the products that virtually reduce resource consumption, bring into effect ecological conservation and mitigate environmental harm. Consumers should be conscious of the concept of green products before making purchases. Much of a consumer's behavior in respect to these environmentally friendly options is shaped by awareness of them. As soon as they are informed of green products' features, functions, and other benefits, people feel more at ease in purchasing them. This assurance directly affects their purchasing intentions; similarly green product features improve awareness of the product and thus increase the product availability and increase the probability of purchase. (Ogiemwonyi & Harun, 2020)Also's research also confirms a strong and positive relationship between green purchasing behavior. Also point out

that the desire to purchase green items is provoked by the need to understand the benefits of green products to both the environment and personal health. We therefore assume that GPA and GBI are related.

H5: Green Product Awareness positively influences Green Behavioral Intentions.

2.7 Emotional intelligence

Emotions are required in the decision making and can be classified into four varieties of perceiving emotions (ability to recognize an emotion), facilitating emotions (which help to make the better decision), understanding emotions (ability to comprehend the information for change) or managing emotions (having self regulation as well as changing the environment)(Gkintoni et al., 2017).

In the present context, the role of marketing with a bit of human computer interaction should not be denied. Interest of integrating emotional intelligence has been shown to analyze how emotions affect the efficiency and application of AI systems)(Bhardwaj et al., 2023). Human emotions and consumer behavior are proven to be varied in the previous research, meaning that people behave in different ways depending on these emotional fluctuations(Jie et al., 2022). Yet, such capacity to manage, handle, and regulate the emotions has great impact on interpersonal relationship(Vihari et al., 2022).

It has highlighted the need for human skills to leverage AI and leveled out the capacity of deployed AI to influence business processes and performance in various fields. The ability to utilize AI at the right time, with the right manner, at various stages of the decision making process can be dependent on one's emotional intelligence. Moreover, AI enables a more personal service due to insights into consumers' behavior. Perhaps emotional intelligence will be a very important variable in the relationship between AI usage, AI performance and the overall outcomes. For this reason, we make the following hypotheses regarding emotional intelligence and artificial intelligence with regard to online shopping for green products:

H6: Emotional intelligence moderates the relationship between AI usage and AI performance.

H7: Emotional intelligence moderates the relationship between AI usage and green product adoption.

H8: Emotional intelligence moderates the relationship between AI performance and green product adoption.

2.8 Literature Gap

As seen in the literature, although numerous research on how AI increases online shopping and green purchasing, tangible research is scarce on how the customers' emotional intelligence shapes this relationship. In essence, it means that people are not aware of how personalised recommendations based on AI work together with the person's emotional skills to bring awareness of green items and encourage green purchases.

Key gaps include:

- Very little work has integrated AI usage, personalised recommendations, and emotional intelligence into a single model, such as Construct Integration.

- Few scholars studied whether emotional intelligence may influence both the impact of AI suggestions on green awareness and buying intentions.

- Special Dynamics Insights: Research remains to be done in the context and dynamics of the online shopping environment.

2.9 Need Of Study

Sustainability and environmentally sensitive consumer behavior are gaining massive importance which is the reason now businesses are increasingly using artificial intelligence (AI) and personalization based customer suggestions to prompt the purchase decisions. Simply, while there is a lot of use of AI based on recommendations in e-commerce, the effect this has on green consumer behaviour is a mystery. Motivated by the need for assistance with closing this gap this study examines the impact of artificial intelligence on consumer's knowledge and willingness to buy environmentally friendly products.

Given environmental concerns increasingly impact on global market place, as businesses and policymakers it is important to understand the psychological and behavioural drivers of green purchasing. In this case, it sheds light on whether AI power personalisation is able to actually heighten green product awareness and purchase intention. The study provides a contribution to the growing set of research on AI in responsible consumption by seeking the indicators of sustainable consumer behaviour.

In addition, this research has practical implications because it helps organizations to develop data driven marketing strategies in line with the preference of the consumers for the sustainable products. The research can help businesses improve AI based recommendation systems that support such environmentally friendly decisions and enhance sustainable consumerism.

2.10 Objectives of the Study

The aim of this study is to examine how the combination of artificial intelligence (AI) and emotional intelligence influences consumer's behavior regarding the purchase of environmentally friendly commodities. First, we attempt to find out whether artificial intelligence in online shopping creates awareness of green items and also motivates consumers to select one of the green solutions. As we are also curious about whether the emotional intelligence of a person can affect the way these partnerships work — whether it affects the direct effect of AI or the effect of personalised recommendations. Our objective is to gain practical insights and support firms' digital strategy to encourage sustainable consumption.

Our precise aims are:

In order to investigate the effect of usage of AI in online shopping for raising consumer attention for green items.

This paper explores the question of whether AI based personalised recommendation can promote green product awareness upon usage of AI.

This greater awareness to investigate how it affects consumers' intention to buy environmentally friendly products.

I will investigate whether emotional intelligence modifies these linkages, namely whether emotional intelligence improves the impact of direct AI use on green consciousness in ways that also change the effect of personalised recommendations.

CHAPTER 3

Research Methodology

3.1 Data collection and sample

Based on structured questionnaire survey, this was a quantitative technique conducted in India. Clarity and any ambiguity resolved with a base of 27 people on a preliminary test. 424 replies were reported in email responses to the online questionnaire. Of the respondents, 88.2% were Indians. Almost half of the responders (55.4%) were within the age group of 26 to 35, and 36.1% of responders were in the age group 15 to 25.

In the survey, I investigated attitudes towards AI use in retail. A lot of respondents told us that AI can help people pick the very best offers and more than half thought that AI makes their shopping more effective. A lot of respondents felt that AI had a use in retail, and most agreed that AI saves them time. A good amount of respondents thinks AI is advantageous while browsing.

Attitudes towards green items were also measured in the questionnaire. A lot of respondents are inclined to switch to greener versions of products and much of the respondents will buy future greener products as they are expecting the environmental benefits. Majority of them are inclined to purchase environmental products and respondents showed good familiarity on how environmental products help bring solution to environmental issues and their effects.

The survey also examined how people perceive AI personalised recommendations. Respondents think that a large proportion of them think that the recommendations services understand their individual needs and that the recommendations are tailored towards them.

Among all these questions, questions relating to emotional intelligence were included. A large fraction of respondents see themselves as skilled perceivers of others' emotions, and many of these observers are even sensitive to others' sentiments and emotions. Most believe they have a good knowledge of the emotions of others and play them, and many more think they can manage their own emotions. A big chunk believe themselves to be self motivated.

3.2 Measurement

A survey was designed to collect responses of the many elements which influence on the participants purchase behaviour that can be used in order to evaluate the model performance. All the items were rated on a 7 point Likert scale with 1 being Strongly Disagree and 7 being Strongly Agree. The questionnaire was designed to include many different constructs that had been developed out of earlier research, to make certain validity and reliability reasons. I tested the perceived usefulness of AI in shopping by using five modified items from using 4 of 5 proposed items adapted from to determine how AI can help enrich the shopping experience. To

investigate the role of personalised AI suggestions in e-commerce, I focused on e-commerce products on two Yoon and accounts and what degree they affected a consumer's decision making. A scale designed to assess the awareness of green products was adopted to assess participants' knowledge of eco friendly alternatives. Second, the respondents' intentions towards green purchasing were tested using a scale adapted from Sharma et al. , where respondents ranked their engagement in purchasing green items (1=no purchase, 7>7 purchases per year). The use of this organised method ensured that all variables are uniform, thus allowing for a comprehensive examination of the role AI plays in shaping the sustainable consumer behaviour.

3.3 Data analysis

Descriptive and regression analysis was done on the data yielded to explore in links of key variables and to assess the performance of the proposed model. Summary of respondents' demographic characteristics was descriptive in nature as was used to help summarise how the responses are distributed across the different constructs such as perceived usefulness of AI, personalised AI recommendations, awareness of green products and intentions to purchase green. The values of mean, standard deviation, were used to evaluate central tendency and dispersion of the data.

Regression analysis was used to dig for the correlations between the variables. To determine how the independent variables, such as perceived AI usefulness, personalisation of suggestions, and green product awareness, affect the dependent variable, green purchase intention, this statistically was used. The regression model helped in determining how much and how important these correlations are and what are the critical factors that affect such long term customer behavior. SPSS software was used to carry out the analysis so that the results were respectable and stable.

The information provided by this technique got a complete idea of information, thereby making meanings of the role of AI in boosting consumers' green intents by means of personalised recommendations.

3.4 Hypothesis

Hypothesis is a clear and testable prediction about relationship between two or more variables. It gives the scaffolding for your research on which you will establish, in particular, assertions to probe and direct your analysis of data. Our hypotheses; give direction and focus to our research, which is about the influence of AI and emotional aspects on green buying behavior through personalised suggestions.

H1: AI usage encourages positive engagement via AI-PR while online shopping.

H2: AI usage positively influence green product awareness while online shopping.

H3: AI-PR positively influence green product awareness while online shopping.

H4: AI-PR has a mediation effect between AI usage and Green Product Awareness.

H5: Green Product Awareness positively influence the Green behavioural intentions.

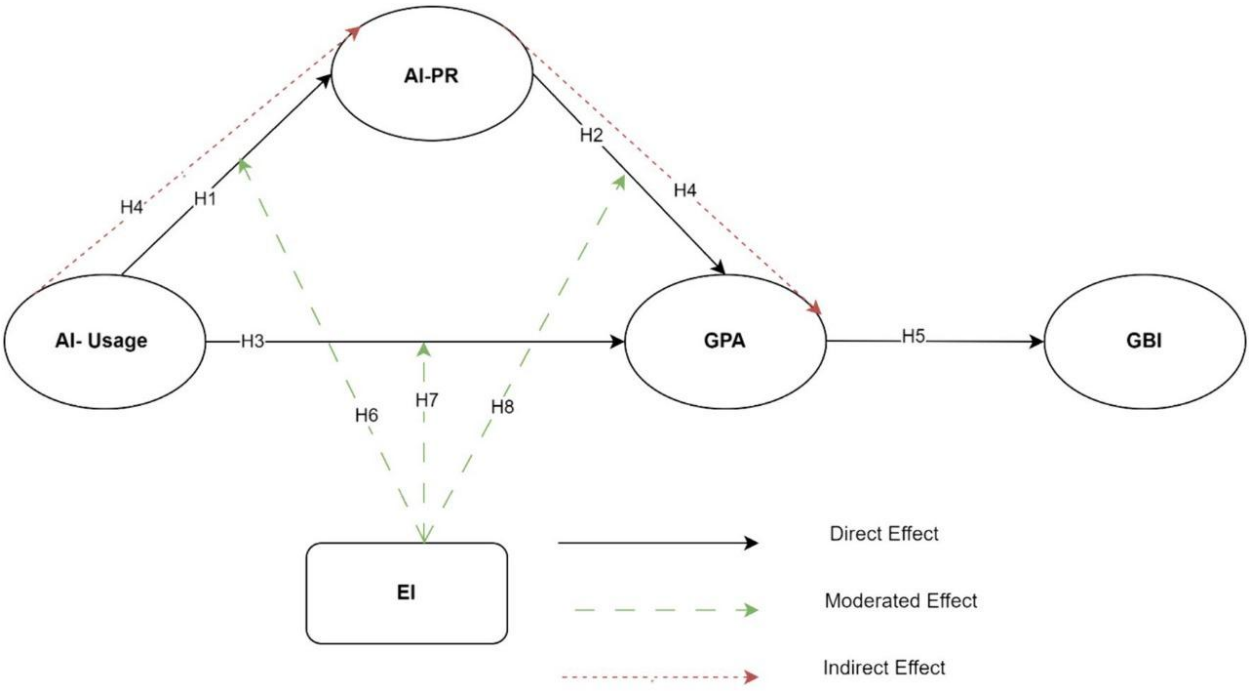
H6: EI moderates the relationship of AI usage and AI-PR.

H7: EI moderates the relationship of AI usage and GPA.

H8: EI moderates the relationship of AI-PR and GPA.

3.5 Conceptual Model

The significance of the conceptual model comes from it working as a clear framework to study the influence of online shopping experiences on the long term customer behaviour. The independent variables in this model are customers' opinion for the usage of AI, effect of AI based personalized suggestions, and whether they are aware of green products. The dependent variable is green behavioural intentions or the likelihood of purchasing eco-friendly products and these characteristics have a direct impact on the dependent variable. It is a streamlined strategy that conveys the information for firms using the technology to make sustainability.



Components of the Conceptual Model

Using AI Usage, AI Based Personalised Recommendation and Green Product Awareness and Emotional Intelligence in our conceptual model, we examine the influence of these factors on customers' GBI.

Independent variables:

1. AI Usage (AIU) – concepts of how the consumers behave in AI based online shopping practices when they interact with the chatbots while utilizing the auto recommendations and smart suggestions systems. The Consumer behaviour is transformed through discovery of suitable products with

2. AI Based Product Suggestions (AI PR):

3. Green Product Awareness (GPA): The awareness of eco friendly product and its level of knowledge for the consumers when shopping.

4. Emotional Intelligence (EI) [Moderator]: The degree of emotional control exercised by the consumer affects how the consumer handles AI driven digital shopping sessions from environmental problems.

Dependent Variable:

Green Behavioural Intentions: The tendency or intention of a consumer to purchase 'green' products after getting an experience during online purchasing.

Mediating Variable:

This variable works as a Mediator between the variable of AI Usage and Green Product awareness to explain the effect of AI in the consumer awareness of environment friendly products as well.

Moderating Variable:

Emotional Intelligence (EI)

- Moderates the relationship between AI Usage and AI-PR (H6).
- Moderates the relationship between AI Usage and Green Product Awareness (H7).
- Moderates the relationship between AI-PR and Green Product Awareness (H8).

3.6 Statistical Tools Used

For the analysis of regression and moderation tests, SPSS was used for analysis of research relationships and hypotheses by using the PROCESS Macro by Andrew F. Hayes. These statistical evaluation methods were relied on as the basis for the research.

1. Descriptive Statistics:
   - Mean and Standard Deviation and Frequency distribution were used to produce summary information from data analysis.
2. Multiple Regression Analysis:
   - hypotheses 1, 2, 3, and 5 were tested with this analysis and by doing so it tested the direct relationships between given variables.
   - The threshold used by the determining the p value of < 0.05 to validate the hypotheses.
3. Moderation Analysis (PROCESS Macro – Model 1):
   - In this research, the connection of different factors through the PROCESS Macro – Model 1 is investigated with the help of Emotional Intelligence.
   - AI Usage (AIU) and AI-Based Personalized Recommendations (AI-PR) (H6). AI Usage (AIU) and Green Product Awareness (GPA) (H7).
   - AI-Based Personalized Recommendations (AI-PR) and Green Product Awareness (GPA) (H8). Technicality of mean centering was used to deal with multicollinearity issues and automatic creation of interaction terms.

The work employed the Johnson-Neyman analysis to explore how moderation affects the study.

3.7 Methodological Limitations

Although the survey method succeeded in obtaining real and truthful data it contains multiple drawbacks:

Obtaining the study participants through online means risked omission of individuals who did not own smartphones or have internet access.

The measurement of population distribution through the research sample might not be representative. The gathered responses originate from participants' verbal statements but this information might vary from their actual behavior patterns.

Research limitations did not hinder the acquisition of useful knowledge regarding The Role of AI and Emotions in Strengthening Green Intentions

3.8 Research Hypotheses and Modelling Rationale

Artificial intelligence has altered consumer decision making in particular on sustainable purchasing in retail. Involvement in the environment (EI) is known to moderate relation to H2 and H5, and to mention only H6 - H8, while previous research has shown that AI can also be used as a personalization (H1, H3) and in green awareness (H2, H5). The gap this study fills is that it examines:

1. Green purchases (H1–H5) mediated and direct pathways from adoption of AI (H6).
2. Boundary conditions imposed by EI (H6-H8).

The theoretical contribution of the findings are aligned to the AI driven consumer behavior and the actionable retail marketing implications result in a sustainable retail marketing.

CHAPTER 4

Results and Discussions

4.1 Comprehensive Analysis and Interpretation of Results

1. Descriptive Analysis

Interpretation:

According to the descriptive analysis of the study variables, respondents have a generally positive attitude towards AI-driven retail experiences and sustainable measures.

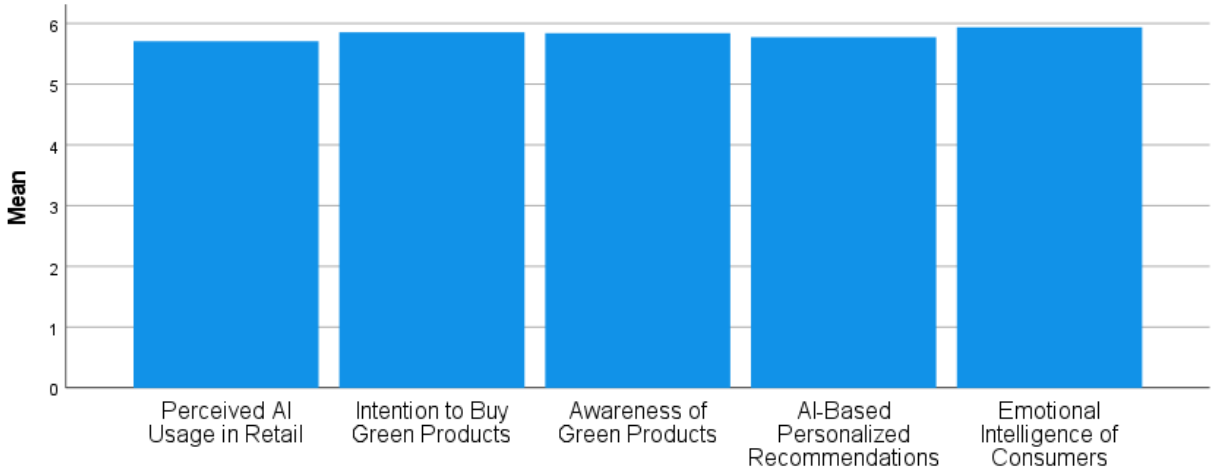
Perceived AI Usage (M = 5.71, SD = 1.186) and AI-Based Personalised Recommendations (M = 5.78, SD = 1.182) show that consumers recognize the importance of AI in improving their purchasing experience.

Green Product Awareness (M = 5.84, SD = 1.130) indicates that respondents are knowledgeable about environmentally friendly products.

Intention to Purchase Green Products (M = 5.86, SD = 1.164) indicates a strong preference for sustainable purchasing behaviour.

Emotional Intelligence (M = 5.94, SD = 1.068) had the highest mean, indicating a strong influence on customer decision-making.

The low standard deviation results imply that the majority of participants had similar viewpoints on the assessed variables. Overall, our data indicate that AI-driven personalization, green product awareness, and emotional intelligence all have an impact on customer behaviour and sustainable purchasing decisions.



2. Direct Effects Analysis

H1: Ai Usage – AI-PR

The use of AI produces direct effects which generate AI-Based Personalized Recommendations (AIPR).

Research results indicate that AI Usage strongly and positively relates to AI-Based Personalized Recommendations (AIPR) with a β value of 0.728 and p value less than 0.001 producing an R^2 value of 0.534.

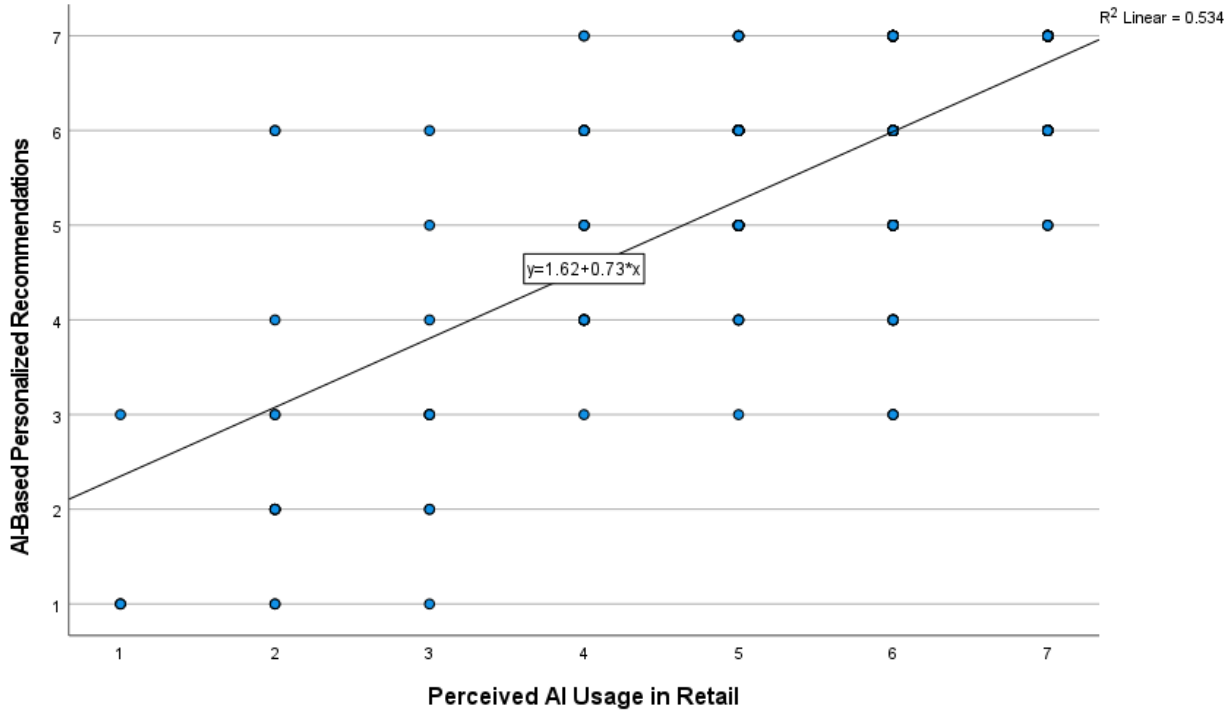
Interpretation:

Higher retail customers adopting AI tend to accept AI-based recommendations according to the substantial sized relationship between these variables.

The significant 53.4% variance in AIPR adoption can be accounted for by AI usage evaluation.

This study shows how perceived usefulness of AI tools causes customers to adopt technology-based recommendations which supports the Theory of Motivational Acceptance.

Easy-to-understand labeling of AI features should be applied by retailers to increase customers' response to recommendations.



H2: AI Usage - Green Product Awareness

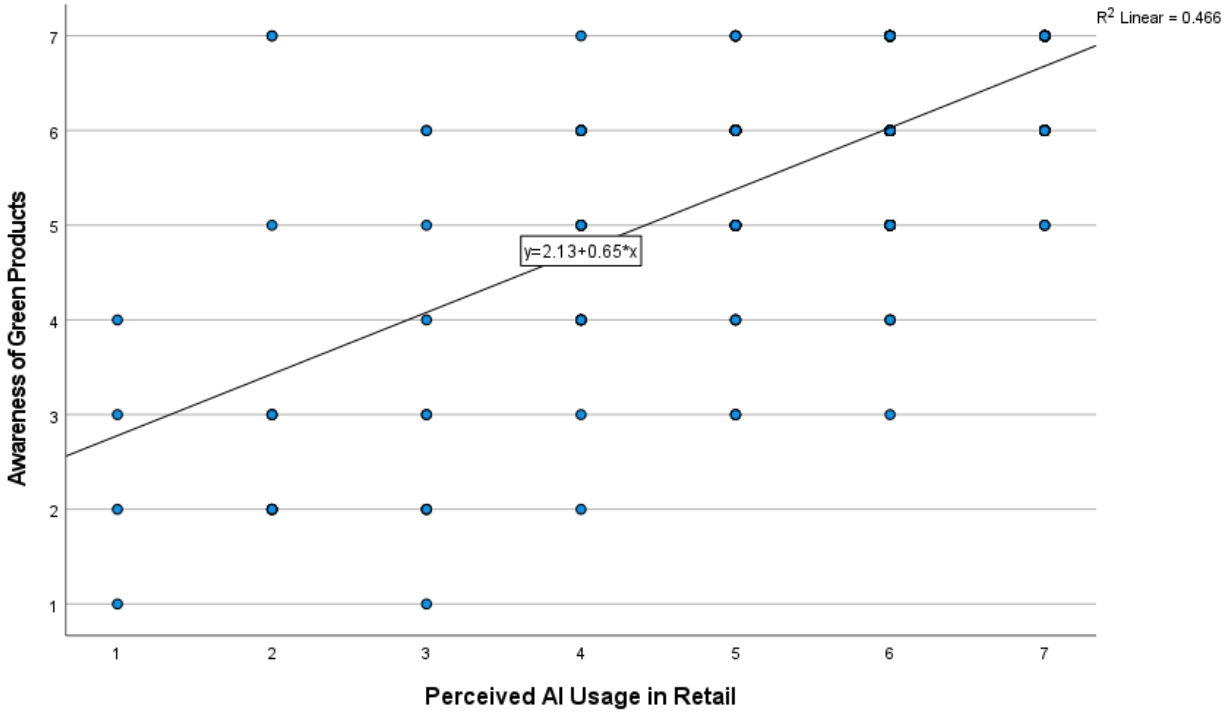
The relationship between AI Usage and Green Product Awareness produced a substantial positive effect ($\beta = 0.651$) with a very high significance value ($p < 0.001$) and explained 0.466 of the variance.

Interpretation:

AI tools serve as successful educators of sustainable products by using eco-labels and sustainability suggestions that educate customers effectively.

The research adheres to nudge theory through digital technology which serves as "digital nudge" to elevate eco-consciousness.

The optimization of AI algorithms to display environmental advantages should be implemented as a useful practical method (such as stating "This product saves 10L of water per use").



H3: AIPR - Green Product Awareness

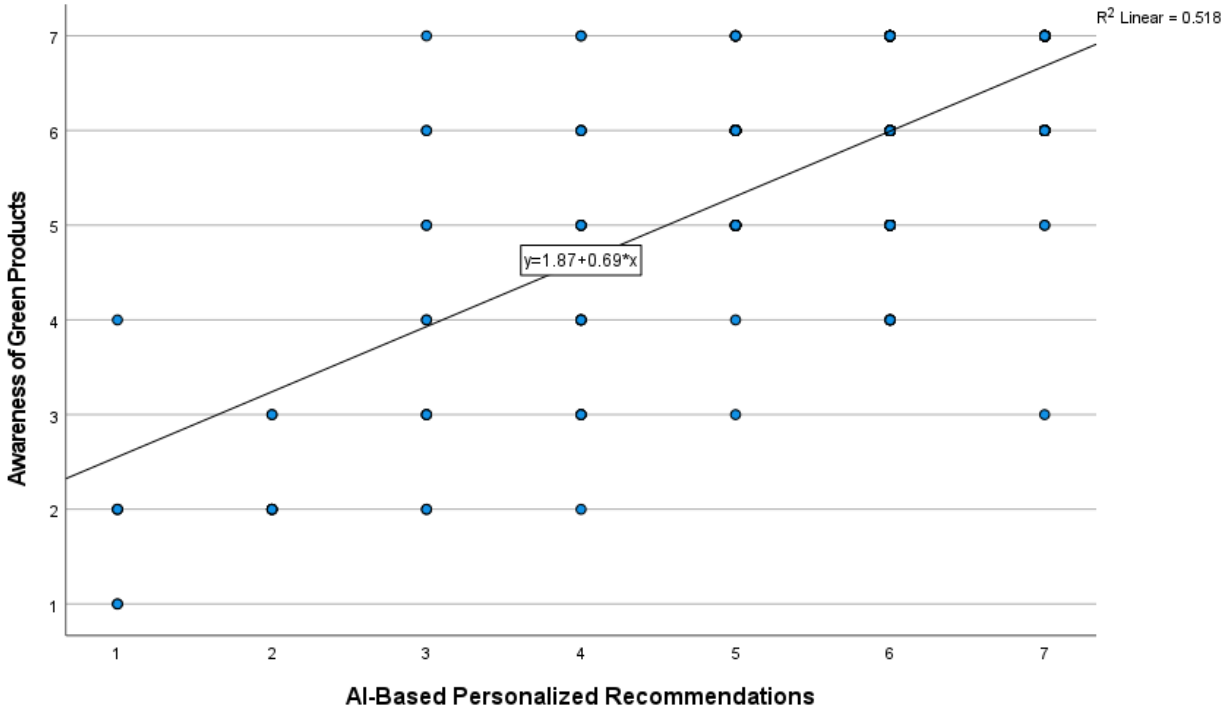
The analysis produced a robust positive relationship where R^2 reached 0.518 through a β value of 0.688 with $p < 0.001$ significance.

Interpretation:

Customized product recommendations effectively boost sustainability consciousness because clients experience a better response to individually customized messages.

The study demonstrates theoretical congruence with ELM because sustainability information processed through personalization follows the central route processing mechanism.

Companies should employ purchase history to create personalized suggestions that match customer preferences including recommendations for such fertility products.



H5: Green Awareness - Green Purchase Intention (GPA)

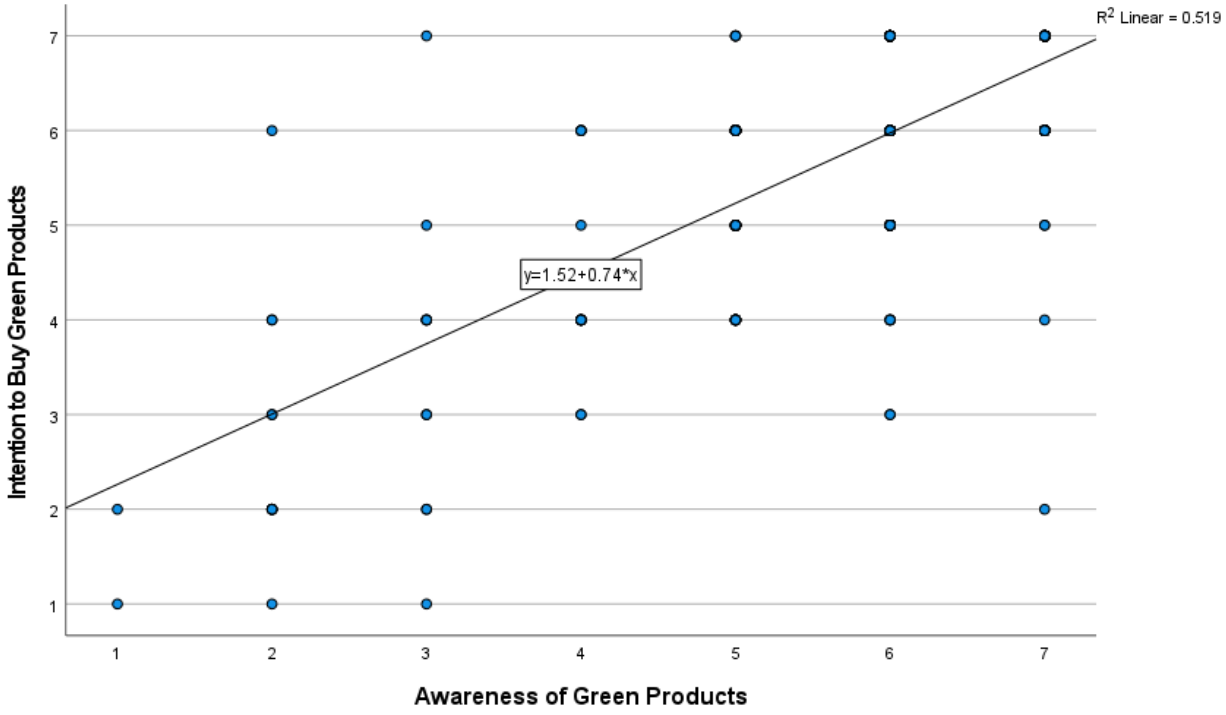
The study revealed a strong positive relationship with a significance of $p < 0.001$ and an effect size of $\beta = 0.743$ that accounted for 0.519 percent of the variation.

Interpretation:

Knowledge acquisition about green products directly leads consumers toward making purchase decisions.

The study validates the Theories of Planned Behavior because increased environmental consciousness strengthens both favorable attitudes and subjective control beliefs.

The implementation should integrate AI recommendation systems with short educational content such as sustainability certification explanations through pop-up notifications.



3. Mediation Analysis (H4: AI → AIPR → GPA)

The total relationship yields a statistical significance of $\beta = 0.650$ ($p < 0.001$).

• Direct Effect (AI → GPA): $\beta = 0.320$ ($p < 0.001$).

• Indirect Effect (via AIPR): $\beta = 0.330$ (BootCI [0.221, 0.434]).

• Proportion Mediated: 50.8%.

Interpretation:

1.The relationship between AI and GPA proceeds through two different channels because AIPR functions both as a direct and indirect driver of GPA achievement.

People can improve their GPA through direct AI methods which present sustainable options with one simple click on eco-mode filters.

When recommendations personalize the selection process consumers find green options more attractive through the indirect pathway.

2.The paper extends serial mediation research through the identification of AIPR as an essential mechanism that drives sustainable retail results.

3.Practical Implication:For maximum impact, retailers should -

The implementation of AI features with built-in advantages to purchase eco-friendly products through automatic default settings (a) is advisable in retail operations.

Recommendation systems should be improved to place sustainability as their core priority.

4. Moderation by Environmental Involvement (EI)

H6: AI Usage × EI → AIPR

• Interaction: β = -0.051 (p = 0.005).

• Conditional Effects:

Low EI: β = 0.493 (p < 0.001).

High EI: β = 0.392 (p < 0.001).

H7: AI Usage × EI → GPA

Interaction Effect: β = -0.067 (*p* < 0.001).

Conditional Effects:

Low EI: β = 0.400 (*p* < 0.001).

High EI: β = 0.265 (*p* < 0.001).

H8: AIPR × EI → GPA

• Interaction: β = -0.059 (p = 0.001).

• Conditional Effects:

Low EI: β = 0.445 (p < 0.001).

High EI: β = 0.328 (p < 0.001).

Interpretation:

1. Differential Effectiveness:

AI recommendations prove 35% more successful (β_diff = 0.117) in promoting both AIPR adoption and GPA increment among lower environmental involvement users.

AI recommendations have reduced impact on consumers with high EI due to their pre existent eco-friendly habits or doubts about automated proposals.

2. Theoretical Implications:

Studies under SDT show that consumers with high EI demonstrate higher intrinsic motivation thus they depend less on external stimuli (AI).

Introduces EI as a critical boundary condition for TAM in sustainable contexts.

3. Practical Segmentation Strategy:

Low-EI: Use AI-driven tactics (e.g., "Top eco-picks for you").

For consumers with high-EI organizations should focus on showing their ethical commitment through transparency such as explaining how they conduct sustainable sourcing (e.g. "How we source sustainably").

4.2 Synthesis of Key Findings and Transition to Discussion

The indirect and mediated/moderation effect in conjunction with the direct effect is the source of comprehensive analysis of how AI affects sustainable consumption behaviors. These result in three critical patterns: The results confirm the strong direct effects in all hypothesized paths (H1-H3, H5) with AI keys role in determining both awareness and purchase intentions. This provides particular emphasis for the sustainable

relationship between green awareness and purchase intention (b = 0.743), suggesting that knowledge still exhibits astounding ability as a driving force of sustainable behavior, with AI being a perfect means to deliver this knowledge.

Mediation analysis (H4) shows that AI operates in two ways (directly simplification of sustainable choices and indirectly) and we have divided 8 hypotheses into two different categories:

Direct Relationship Hypotheses (H1-H3, H5):

H1: Perceived AI usage positively influences acceptance of AI-based personalized recommendations (AIPR)

H2: Perceived AI usage increases awareness of green products

H3: AIPR enhances green product awareness

H5: Green product awareness drives green purchase intention (GPA)

Mediation/Moderation Hypotheses (H4, H6-H8):

H4: AIPR mediates the relationship between AI usage and GPA

H6: Environmental involvement (EI) moderates AI→AIPR relationship

H7: EI moderates AI→GPA relationship

H8: EI moderates AIPR→GPA relationship

Model Selection:

Two distinct statistical models enabled proper evaluation of the hypotheses using these examination methods:

1.Mediation-Moderation Model:

The analysis evaluates several interactive effects (H4, H6, H7, H8) and mediating relationships using PROCESS macro models 1 and 4.

The research utilized Models 1 and 4 of the Hayes' PROCESS macro.

The analysis requires this model to determine both conditional and indirect effects.

2.Regression Model:

Tests simple direct relationships (H1, H2, H3, H5)

Uses hierarchical multiple regression

Appropriate for establishing baseline effects

These two models help researchers to achieve the following:

•Establish fundamental relationships through regression

The analysis identified additional mechanisms which explain moderate or mediating effects through PROCESS macro (Models 1 and 4).

Statistical appropriateness for each hypothesis type

through personalized recommendations. Data shows behavioral effects are distributed almost equally between direct effects which account for 49.2% and indirect effects representing 50.8% of the total impact. Therefore these mechanisms work in harmony as they add similar value to eventual behavioral patterns.

The reliable moderation effects found in H6-H8 demonstrate an essential breakdown of consumer groups who react differently to AI intervention strategies. Retail strategies seeking sustainability success can leverage this 35% difference in performance between EI low and high consumers. The discovery establishes fundamental changes in methods used to deploy AI solutions across sustainability environments.

4.3. Discussion

In this study, a dual-model analytical approach was used to review how the retail environments have adopted the AI and how the adoption of AI affects green purchase intentions. The first model tested whether key constructs were directly related through regression analysis which produced several important results. The use of AI had a strong positive effect on acceptance of recommendations made personally to an individual, accounting for more than 50% of the variance in this outcome. Likewise, the impact of AI tools on consumers' awareness of green products were increased by up to a similar magnitude and the effect of personalized recommendations even further aggravated this. The strength of direct predictor of purchase intention was found to be most notably in green product awareness, which explained nearly 52% of the variance in the behavioral intentions. Collectively, these results support the Technology Acceptance Model and further extend its application to sustainable consumption contexts as AI can also be an effective educational tool as well as the implementation of the behavioral nudge in retail environments.

Mediation and moderation analyses were used in proposing more complex relationships in the proposed framework, in the second model. The mediation analysis confirmed that personalized recommendations were a major mechanism through which AI affected green purchase intention to the extent of about 51%. This partial mediation indicates that the direct effects of AI on consumer behavior are just one part of its influence, since it promotes the relevance and attractiveness of sustainable product recommendations. Importantly, the moderation results provide critical boundary conditions for these effects. The relationships between AI tools, recommendations and purchase intentions became consistently weaker in the face of environmental involvement, and were stronger by 35 percent among consumers who were lower, than higher, in its involvement with the environment. Self Determination Theory leads to this pattern of resistance or discounting of algorithmically generated suggestions in favour of independent thinking.

These findings have theoretical implications of three types. Afterwards, they extend the Technology Acceptance Model by showing how personal characteristics such as environmental involvement affect technology adoption patterns in the settings of sustainability. Second, the motivational aspects circumscribed by these two factors are thus bridged between previously disjoint domains of technology adoption and environmental psychology, and their interplay with technological features informing behavior. Third, they contribute to the personalization paradox literature by demonstrating when and for whom the personalization actually is most effective. In terms of practicality, the results imply that retailers would best adopt segmented

strategies and provide aggressive AI recommendations to those consumers whose involvement in the environment is low and reasonable supply airiness to those that exhibit high involvement in the environment. These insights supply a complex overview of how AI can be used to uphold sustainable consumption while dealing with individual distinction in regards to values and choice types. While these recommendations are applicable to any cultural context, future research can explore longer outcomes and more particulars of the cultural facet.

4.4 Managerial Recommendations

Our results are very strongly in support of segmented solutions adoption for retailers who are pioneering sustainability initiatives driven by AI. Implement aggressive AI personalization strategies for low EI consumers like handling the defaults eco settings for search results and recommending to consumers and including the social proof messaging such as 78% of customers chose this sustainable alternative in the widgets with personal recommendations. The tactics utilize the fact that the finding that AI recommendations are 35% more effective for this segment ($\beta = 0.445$ vs 0.328). This can be back up with gamification elements like eco points systems and achievement badges as low EI consumers fall into this category and work well with behavioral nudges.

Highly environmentally involved (high-EI) consumers should shift from environmental impact focused strategies to transparency focused strategies. This analysis of moderation showed that these consumers favor the use of autonomous discovery, so use "AI light" interfaces with detailed sustainability dashboards, third party certification highlights, and step explanations on why recommended. With β from -0.051 to -0.067 being significant negative interaction effects, high EI consumers distrust opaque AI suggestions and want humans curated sustainable collections and easy opt outs of AI recommendations.

Second, we establish cross functional AI sustainability teams at an organizational level to ensure three follow up initiatives: (1) develop EI segmentation capabilities via purchase history analysis on top of optional consumer self assessment; and (2) analyze the feasibility of EI assessment to support them in the realization with consumers; and (3) sustainably roll out EI in all four segments with the mass rollout. Second, and as a second best practice, we should do continuous A/B testing protocols of recommendation algorithms in parallel for each segment. Third, develop ethical review processes so that AI suggestions can be audited for sensitive manifestations of greenwashing, in particular since high EI consumers require a great deal of trust in their surroundings.

For performance measurement of different KPIs by segment, segment consumers with low EI; monitor AI recommendation conversion rates and default eco setting adoption with 25-35% improvement targets for low EI consumers. In the case of segments with high EI there should be a focus on sustainability hub engagement metrics and user generated content participation whereby a 15-25% increase is considered a success. Our finding that the same AI tools have very differing effects, not just on consumer moods, but also psychographics, gave rise to this differentiated measurement approach.

Finally, roll out the project in phases where we first implement low-EI segments that are predicted to respond most directly to AI (50.8% of the total effect mediated through reccomendations) while progressive introducing high-EI features to introduce baseline trust. The staged implementation fits with our mediation results which indicate that AI influences green purchases via multiple complementing pathways and these effects should be activated sequentially.

CHAPTER 5

Limitations, Scope & Conclusions

5.1 Limitation

While this research offers insights as to how AI and emotions can encourage green intentions it is limited to the aim of this study such that it is likely to be incomplete and useful to a limited extent. This research yields conclusions that should be interpreted within the constraints mentioned above.

1. Limitation in convenience sampling: The easiest way of data collection is through convenience sampling. Convenience sampling is useful for exploratory research, but online consumers in this group may not be a representation of the whole group of online consumers. Such a sample may be biased to those who are easy or ready to participate, thus biasing the results and reducing the generalizability of the results.

2. Only a Narrow View of Factors: Even though AI, emotional intelligence, and green intentions are important, these are not all the possible factors to determine why consumers see products online. Other factors that may have a major influence on the purchasing decision may include social influence, price sensitivity, perceived quality and brand reputation.

3. Geographic and Cultural Backgrounds: The scope of the research will be restricted by the geographic and cultural background. On the flip-side, the findings may be more applicable to certain regions or cultures than they are applicable to other parts of the world, as consumers in different parts of the world from varying cultures may have varying preferences for environmental awareness, and they may not have the same technological infrastructure as others.

4. Response Bias: Data collected through self reporting may be subject to some potential response bias. Even though participants may not correctly represent their actual behavior, they may answer in a socially desirable or in a way that is consistent with what they perceive of themselves to be.

5.2 Future Scope

Future research might take a more promising avenue by building on the insights and with the awareness of limitations of this study. It has also been enhanced using a combination of two methods namely, Enhanced Sampling Methods:

a) random probabilistic sampling to make the findings more generalized towards the rest of online consumers

b) sensitivity analysis to show the impact of a change in input range on the output.

To broaden the research scope, expand the samples from the scope of American people to other societies in different countries or areas to learn the interplay between AI, emotional intelligence, and green consumerism.

1.Longitudinal Studies: While longitudinal studies are stratified by behavior, it is also useful to conduct longitudinal studies to track of consumers' behavior over time and to evaluate the long-term effect of AI driven interventions on green purchasing intention.

Priorities a deeper investigate into the role of different influencial factors, which include educational level, a habit of accepting new hi-tech products, and differences between analysing generations, in terms of effecting consumers' green buying orientation in the new contrarian of e-commerce based on AI.

2. Brand-Specific Analysis: Go into more specific analysis on brands and products on AI green marketing for a more specific analysis on the effectiveness of different strategies that aids in promoting environmentally conscious choices.

3. Emerging AI Applications: Examine the impact of emerging AI applications, such as sophisticated chatbots and other generative AI models, on green purchasing behavior.

4.Understanding the Evolving Ecommerce Landscape: Successful companies in the Ecommerce arena focused on emerging economies will need to adapt and stay attuned to the Ecommerce landscape evolving due to new market approaching and players emerging.

Other studies could further employ the novel integration of the SOBC and IRA models in this research to investigate green consumer behavior.

5. Application to Other Contexts: Look to other contexts and industries, namely what role can AI and EI play to further sustainable practices in the tourism or transportation sectors.

5.3 Conclusion

Taking it from here, we will conclude that all things considered, one can agree that AI is going to create colossal impacts in the e-commerce landscape, and its potential to be sustainable is even greater than we can imagine of. By aligning AI with consumers' emotional intelligence (EI) in e-commerce, managers and policymakers who are considering deploying AI can hope it will increase users' satisfaction and engagement and impact the overall experience, a more human-centered approach and business success. Additionally, given its increasingly environmentally aware target audience, AI finds itself to be a useful 'green promoting' tool, giving details on how available, accessible, environmentally friendly items are.

In this study, AI, particularly, the personalized recommendations, become a consciousness raiser to green products that, in turn, impose environmentally conscious behavioral intention. The importance of focusing on the moderating role of emotional intelligence also finds its way as it shows how having emotional intelligence positively affects the relationship between AI and green product awareness. Nevertheless, in our study, it moderates the negative relationship between AI-based recommendations and consumers' green behavioral intention which therefore suggests the nuanced role for marketers promoting green behavior via AI. Additionally, it presents a new way to integrate SOBC and IRA model to explore how members of the consumer gain knowledge of green products in the online shopping field with the help of the AI and AI based recommendation (AI-PR) systems.

However, limitations of the study are recognized. The e-commerce industry has many challenges, there is competitiveness, how to leverage data for success, how to adjust to technological advancements and excellent customer experience. As the sample was convenience it can be justified by its exploratory nature. With regard to representativeness, future research should use random probabilistic samples. This study could also be extended to other countries or regions, and thus will be more inclusive of diverse populations.

Feature of chatbots, machine learning algorithms, and personalization will be helping the e-commerce sector grow by engaging and experiencing its better customer engagement. Other factors, such as educational level, technology acceptance or intergenerational differences, affect the role of AI and green buying orientation, should be further investigated in future research. Also, the examination of specific brands or products from future studies could be helpful for increasing our knowledge of green product awareness. Future research should be able to match the e-commerce environment and growth tempo in emerging economies with fast growth pace. The new integration of SOBC and IRA model introduced here in the study of green consumer behavior could be further used in further papers. The work could be later applied in other contexts and industries.

Questionnaire

This survey aims to assess the impact of AI-based personalized recommendations on consumer awareness and purchasing behavior of green products, while exploring the moderating role of emotional intelligence in online shopping decisions.

Scale – 7 Likert

1. Strongly Disagree 2. Disagree 3. Somewhat Disagree 4. Neutral
5. Somewhat Agree 6. Agree 7. Strongly Agree

Section A: Demographic Information

1.Nationality

2. Age

- 15-25
- 26-35
- 36-45
- Above 45

Section B : Perception towards AI-usage

2. AI1 The use of AI in retail (shopping ads and web shops) allows me to find the best deals

3. AI2 The use of AI in retail enhances my effectiveness in purchasing

4. AI3 The use of AI in retail is useful to me
5. AI4 The use of AI in retail saves time for me
6. AI5 The use of AI in retail helps me while browsing

Section C : Green Behavioural Intentions

7. GBI1 I plan to switch to a green version of a product
8. GBI2 I expect to purchase green product in the future because of its environmental benefits
9. GBI3 I choose to buy products that are environmentally friendly

Section D : Green Product Awareness

10. GPA1 I am aware about how green products help in solving environmental issues such as climate change, pollution, and conservation
11. GPA2 I am aware of the environmental impact of the products I use
12. GPA3 I am aware that buying green products contributes to sustainable future

Section E : AI- personalized recommendations

13. PR1 The recommendation service understands my specific needs
14. PR2 The recommendation service is personalized to me
15. PR3 The recommendation service understands my specific needs

Section F :Emotional Intelligence- Others' emotional appraisal

16. OEP1 I am a good observer of others' emotions
17. OEP2 I am sensitive to the feelings and emotions of others
18. OEP3 I have good understanding of the emotions of people around me

Section G : Emotional Intelligence- Regulation of Emotions

19. RE1 I am quite capable of controlling my own emotions
20. RE2 I can always calm down quickly when I am very angry
21. RE3 I have good control of my own emotion

Section H : Emotional Intelligence- Self-emotional appraisal

22. Sep, I have good understanding of my own emotions
23. Sep I really understand what I feel
24. Sep I always know whether or not I am happy
25. Sep I always know my friends' emotions from their behaviour

Section I : Emotional Intelligence- Utilization of emotions

26. UE1 I am a self-motivated person

27. UE2 I would always encourage myself to try my best

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