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A Critical Analysis in Understanding the Role of AI Influenced Technology in Analysing the Consumer Behavior in Fashion Products: The Mediating Role of Brand Trust

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Abstract: The significant integration of artificial intelligence technologies into the worldwide trend of manufacturing intelligence is what is causing a transformation in industrial processes. Because the fashion industry requires a significant amount of resources, it is an essential industry to explore in order to determine the potential for artificial intelligence to support sustainable growth. A substantial shift in the comprehension and administration of consumer buying patterns is marked by the synchronisation of consumer behaviour with artificial intelligence (AI). Enterprises are able to use apps that are powered by artificial intelligence to evaluate human behaviour in ways that are not possible with traditional analytical methods. Through the use of advanced recommendation systems that help consumers make choices about what to buy, personalised content that tailors individual experiences, and behavioural nudges that are generated from the arrangement of information, artificial intelligence has an impact on consumer buying.

Keywords: Consumer Behavior, Brand Trust, Artificial Intelligence

1. INTRODUCTION

The business world is now being thoroughly transformed by the fast advancement of artificial intelligence. The emergence of artificial intelligence technology is resulting in a transformation of processes in the fields of production, design, and retail. There is a great deal of potential for the improvement of sustainability that can be unlocked by artificial intelligence (AI)-driven try-on technology and fashion advising systems. With the use of artificial intelligence, try-on technology allows anybody to see how clothing will look and fit on them without making actual touch. This tackles three major difficulties in the online fashion retail industry: The accuracy of the matching algorithms is what prevents consumers from making extra purchases that are caused by differences in size and style, hence saving resources. By making it possible for users to continue using items for longer periods of time, virtual wardrobe simulations reduce the demand for new materials. Customers are able to determine whether or not the technology is compatible with their devices by using the technology's accurate visual representation, which subsequently results in a decrease in carbon emissions from logistics (Ciasullo, 2022). Taken as a whole, these capabilities contribute to the digital fashion industry's capacity to remain sustainable. The purpose of this research is to analyze how the customers' intentions to make impulsive online purchases are affected by the features that are of the greatest importance to artificial intelligence-driven try-on technology. The technique utilizes three-dimensional body scanning data and computer graphics concepts in order to build personalized three-dimensional avatars. This allows people to try on clothing from vast online collections digitally and to determine how well they fit in real time. Shopping recommendations that are tailored to the person are provided by integrated recommendation algorithms, which take into account the circumstances and profile of each user (Avotra, 2021).

The length of time that a person spends interacting with artificial intelligence on a day-to-day basis has a substantial impact on their actions as a consumer. Around the world, the prevalence of products and services powered by artificial intelligence is increasing into the lives of humans. The overwhelming majority of consumer contacts are anticipated to be handled independently, which is indicative of the fact that artificial intelligence is becoming more integrated into our everyday lives and modes of communication (Dias, 2023). The attitudes that people have towards artificial intelligence, which include apprehension, doubt, excitement, and support, have a tremendous impact on how they behave as consumers. A considerable amount of study has shown that people from all over the world are getting more comfortable with artificial intelligence, especially when technology is used to make their interactions with companies easier. The importance of understanding and addressing the sentiments that individuals have regarding artificial intelligence is

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demonstrated by this trend. The reason for this is that these emotions can have a significant impact on the degree to which people are willing to accept and utilize services that are powered by AI (Bandi, 2023).

The technique in which organizations connect with customers and convince them has undergone a substantial transformation as a result of the development of artificial intelligence. Marketers have the ability to make use of artificial intelligence (AI) capabilities in order to put into effect improvements that are driven by data across the whole customer lifecycle. These improvements may include acquisition, engagement, and retention, and they can be applied to both digital and physical touchpoints (Taherdoost, 2023). In personalized marketing, AI can analyze customer data to generate content and marketing messages that are customized to each customer's preferences. By using artificial intelligence, predictive marketing is able to forecast the actions and preferences of customers in the future. Artificial intelligence is used in programmatic advertising to improve the effectiveness of campaigns. Chabot's and virtual agents are used by artificial intelligence (AI)-powered customer care services in order to provide support to customers.

2. REVIEW OF LITERATURE

Marketing is being more influenced by technology innovation. The capacity of artificial intelligence (AI) to make predictions has the potential to be used in the field of marketing research, specifically in the area of understanding future purchase intentions. It is of vital importance to comprehend the way that the general public feels about artificial intelligence, how often it is used, and its ability to improve the customer experience (Kliestik, 2022). There is research that has been done on the anthropomorphism of artificial intelligence and the effects that it has on the extent to which people trust the technology. According to research, abstract-level communications are more successful in establishing confidence in those who want artificial intelligence to have a greater degree of anthropomorphism than in those who desire objectivity. That being said, the practice of anthropomorphism has the potential to reduce the level of trust that exists between people. It is of vital importance to understand how to humanize technology, especially in terms of the usefulness of varying degrees of anthropomorphism in diverse kinds of technology, regions, and cultures. In order to make further progress in the field of artificial intelligence (AI) technology, it is very necessary to do more research. In order to fully understand the parallels between artificial intelligence and humans, as well as the need of trust in the process of implementing AI, it is essential that we investigate the influence that artificial intelligence has on human behaviour (Brophy, 2023).

The integration of artificial intelligence into everyday routines, driven by the need for increased productivity, highlights the importance of understanding consumption and the consequences of making technology more human-like. In order to determine the effects that humanized interactions between artificial intelligence and consumers have on the emotions of persons, more research is necessary (Ayemowa, 2024). The necessity to take into account both privacy and ethics is highlighted by the development of technology that imitates human contact in order to reduce user fear. Individuals still have concerns about privacy, and they do not trust others with it. The examination of moral behaviour is a crucial component, since it plays a role in the process of giving robots human-like qualities. Although artificial intelligence has the potential to improve customization and engagement, it concurrently reduces the capabilities of users, and protecting data is a necessary prerequisite for these technologies to operate well. Innovative security methods that increase client confidence may benefit organizations (Elahi, 2023).

3. METHODOLOGY / APPROACH

The purpose of the article is to investigate the influence of technologies that are powered by artificial intelligence on consumer perceptions, decision-making processes, and behavioral patterns within the fashion sector. In order to achieve this objective, the research utilizes a descriptive study design as its methodology, which facilitates a straightforward and systematic comprehension of the topic. The use of the descriptive method is especially fitting for this study since it enables the researcher to document current attitudes, preferences, and behavioral intentions as they are found in the market without any manipulation of variables. By emphasizing the relationship between artificial intelligence interventions, consumer behaviour, and the mediating function that brand trust plays, this design provides an objective and analytical depiction of the phenomena that is being investigated. This depiction aids in the development of a critical and data-driven comprehension of consumer trends.

In order to guarantee that the analysis has sufficient depth, this investigation makes use of information derived from both primary and secondary sources. A theoretical and empirical framework has been constructed via the use of secondary data that has been obtained from a variety of sources, including academic publications, industry reports, recognized fashion technology periodicals, and digital transformation analytics. The conceptual framework that is provided by this foundation allows for an understanding of the impact that artificial intelligence technologies—including predictive

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analytics, recommendation systems, virtual fitting tools, and sentiment analysis—have on consumer engagement. These secondary sources provide clarification on the concept of brand trust as a crucial component that has the potential to affect the effectiveness of artificial intelligence (AI) interventions when they are applied to the modification of decision-making processes (Azad, 2023).

The empirical foundation of the investigation is dependent on the accumulation of primary data. In order to get firsthand information from those who often use artificial intelligence (AI)-enabled platforms for the purpose of purchasing apparel, a carefully constructed questionnaire was created. The purpose of the questionnaire was to assess characteristics associated with the use of artificial intelligence (AI) technology, consumer behaviour metrics such as purchase intention and engagement, and the level of trust that is developed in fashion businesses via interactions that are technological in nature (Feuerriegel, 2024). This objective was taken into consideration and the questionnaire was carefully designed. The respondents were selected by convenience sampling method, which provided ease of access of respondents and a diversified demographic profile (Akhtar, 2024). The researcher is able to easily get data from individuals who are readily available via the use of this method, especially those who often purchase apparel online and incorporate AI-driven interfaces into their everyday routines. A complete research framework, which uses a structured questionnaire, a descriptive technique, and primary and secondary data, can be created to easily analyze the effect of brand trust on consumer behaviour in the fashion industry, with the help of artificial intelligence.

4. ANALYSIS

The demographic features of the respondents give a significant foundation for probing the larger implications of the study. This is particularly in helping to understand the intertwining of AI-fuelled technology and consumer behaviour towards fashion goods, aided by brand confidence. According to the gender distribution, male respondents have a high ratio of 67.30 percent while female respondents have just 32.70 percent of the sample. This difference might introduce a bias in the data, especially since fashion consumption behavior generally differs significantly amongst women. The limited representation of female respondents may limit the generalizability of the results, particularly to get nuanced insights into fashion preferences, emotional engagement and trust-building processes that are frequently more pronounced among female clients in the fashion industry. This might lead to findings being skewed towards perspectives that mostly reflect male decision-making patterns, and ignore gender-specific effects of AI-driven personalization and recommendation systems.

The age distribution shows that a large majority of responses, 37.30 percent, are within the age group of 26 to 30 years and 28.70 percent are below the age of 25 years. This indicates that the sample includes primarily younger consumers who are usually more computer savvy and more likely to engage with AI-powered platforms such as recommendation engines, virtual try-ons, and targeted marketing. This boosts the relevance of the research in terms of digital adoption but is also a limitation in terms of portraying the perspectives of older consumers, particularly over 35 years, who are less well represented in the sample. When considering brand trust as a mediating element, it is important to evaluate the different levels of trust, skepticism and flexibility towards AI technology between older generations. This might mean that the findings overstate the views of digitally native or tech-savvy consumers, and perhaps overstate the effectiveness of AI in driving consumer decision-making.

Table 4.1: Demographic analysis

Gender	**Frequency**	**Percent**
Male	101	67.30
Female	49	32.70
Age	Frequency	Percent
Less than 25 years	43	28.70
26 - 30 years	56	37.30
31 - 35 years	20	13.30
35 - 40 years	31	20.70
Place of Residence	Frequency	Percent
Urban	71	47.30
Semi Urban	52	34.70

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Rural	27	18.00
Family type	Frequency	Percent
Nuclear family	86	57.30
Joint family	64	42.70
Management levels	Frequency	Percent
Lower Level Management	114	76.00
Middle Level Management	36	24.00
Total years of work experience	Frequency	Percent
Less than 5 years	38	25.30
5 - 10 years	44	29.30
10 - 15 years	30	20.00
15 - 20 years	27	18.00
Above 20 years	11	7.30
Total	150	100.00

The preference of urban life was shown in the residential distribution, which showed 47.30 per cent in the metropolitan areas, 34.70 per cent in semi urban areas and 18.00 per cent in rural areas. This preference suggests the study is primarily representative of the experience of consumers with greater access to more advanced digital infrastructure and experience of AI-powered retail settings. Urban consumers are often more exposed to omnichannel retail techniques, data-driven personalization and AI-enhanced customer engagement technology, which might greatly affect their perceptions of brand trust and purchasing behavior. The underrepresentation of rural respondents could be problematic with regards to generalizing findings to other geographic settings with lower technology penetration and digital literacy. The gap may cause a general overestimate of the impact and efficacy of AI technologies for consumer behavior in the wider population. As far as the family type is concerned, 57.30% of the respondents are nuclear family and 42.70% are mixed family. This is important as family types may influence the purchasing behaviour; for fashion products, social influence, collective decision making and cultural norms are important. Nuclear families could be more independent in their decision making when purchasing and might be more open to AI tailored suggestions. On the other hand, mixed families might be more likely to trust community perspectives and use existing trust-building processes that could mitigate the impact of AI technology. The relatively equal representation of both family types gives a useful context for comparison. However, the research must be careful to take these fundamental behavioral differences into consideration.

The analysis of replies by levels of management shows there is a strong dominance in the lower level of management which forms 76.00 percent and medium level of management which is 24.00 percent. Hence the sample is mostly composed of individuals who have little decision-making authority in the professional sphere while being active actors in the consumer market. The lower levels of the chain might have a different spending pattern, financial restrictions, and perception of trust as compared to the upper management level. Their use of AI technology may be for convenience and cost rather than strategic, which may impact on the mediating effect of brand trust. The under-representation of mid-level professionals might limit the knowledge of the effect of advanced professional experience and income on acceptance and trust in AI-driven fashion platforms.

Total work experience analysis shows a reasonably balanced spread of different levels of experience. The highest proportion of respondents (29.30%) has 5 to 10 years' experience, followed by less than 5 years' experience at 25.30%. This indicates that many of the respondents are in the early to mid-career stage and will be tech-savvy and engaged in economic activities. The percentage of experiencers with more than 20 years is very low, 7.30 per cent. There is a very little representation of highly experienced persons who may have more established brand preferences and potentially greater skepticism towards AI powered interventions. The bias toward less experienced respondents may influence the overall findings, particularly with the perceived trust and adoption of AI technology, since younger and less experienced individuals tend to be more amenable to technical innovations.

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Table 4.2: Correlation analysis

Correlations	Perceived Usefulness of AI Technology	Ease of Use of AI Tools	Reliability of AI-Generated Recommendations	AI-Driven Customer Service Efficiency	Brand Trust	Consumer Behaviour Toward Fashion Products
Perceived Usefulness of AI Technology	1	.886**	.829**	.867**	.925**	.745**
Ease of Use of AI Tools	.886**	1	.854**	.867**	.964**	.777**
Reliability of AI-Generated Recommendations	.829**	.854**	1	.842**	.900**	.714**
AI-Driven Customer Service Efficiency	.867**	.867**	.842**	1	.909**	.720**
Brand Trust	.925**	.964**	.900**	.909**	1	.781**
Consumer Behaviour Toward Fashion Products	.745**	.777**	.714**	.720**	.781**	1

As per the correlation analysis, the structure is highly interconnected among all the variables which shows that perceived utility, ease of use, reliability, customer service efficiency, brand trust and consumer behavior towards fashion goods have high positive relationship with each other. High and stable correlation coefficients show that the technical components activated by AI are not working independently, but rather in a system that influence consumer perception and behaviour. However, although these major links may seem to strengthen the power of AI in influencing consumer behavior, they also raise important questions regarding conceptual redundancy and even repetition across the categories. Especially noteworthy is the extremely high correlation of 0.964 between the employment of AI technology and brand trust. That this correlation is practically perfect shows that consumers did not necessarily differentiate between the value of AI systems and their trust in the organization. From a critical perspective, this might refer to some lack of discriminant validity between the two categories, with ease of use probably being a substitute for trust rather than a stand-alone determinant. This situation makes it difficult to grasp the mediating role of brand trust, and it is hard to say whether trust is really mediating the relationship or is merely reflecting the same underlying concept of technological ease.

Perceived usefulness of AI technology (0.925) and other independent factors like ease of use (0.886) and AI customer service effectiveness (0.867) are closely correlated with brand trust. The results indicate that consumers who perceive AI technologies as beneficial are also likely to perceive them as friendly, reliable and efficient. The strength of such correlations implies that we may have multicollinearity, which could impact the stability and interpretation of future statistical modeling (e.g., regression, structural equation modeling). The overlap in these ideas could be because respondents are thinking about AI technology as a whole instead of separating out its specific components.

The reliability of ideas given by AI is closely related to all other parameters, and most importantly to brand trust (0.900) and user-friendliness (0.854). This demonstrates the significance of the perceived accuracy and dependability of AI ideas for brand trust. The large intercorrelations reveal a probable concern, in that dependability is not rated independently, but rather merged with general assessments of system performance. This raises questions regarding the adequacy of the evaluation scales employed in the study to differentiate between numerous characteristics of AI technology, or whether they are inadvertently measuring overlapping elements of a single underlying notion.

As for the effectiveness of AI customer support, brand trust (0.909) and other technical metrics are well correlated, suggesting that good AI interactions contribute to the development of trust. The high correlations between the AI aspects indicate that participants might be generalizing their judgment on AI systems as a whole, possibly instead of focusing on specific attributes such as efficiency of service, accuracy of recommendations, or ease of use. This general perspective may overstate the correlation coefficients and obscure the complex methods via which AI impacts consumer behavior.
Brand trust is the most connected variable in the model with significant correlations with all independent variables and consumer behavior for fashion goods (0.781). This indicates its conceptual role as a major mediating factor, demonstrating that trust is the vital link between AI technological features and consumer decision-making. However, given the strength of these associations, there is concern whether brand trust is a unique mediating construct or an

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extension of positive judgments of AI technology. If trust is too much impacted by the same factors that define the independent variables, the mediating role of trust may be overestimated or misinterpreted.

The correlations of the independent variables with consumer behavior are also strong although somewhat weaker than the correlations with brand trust. Perceived usefulness is associated with consumer behavior at 0.745, ease of use at 0.777, and reliability at 0.714. This pattern implies that AI technological features directly impact consumer behavior but their effect is likely to be reinforced by brand trust, therefore supporting the recommended mediation framework. The minimal difference between direct and indirect correlations implies that AI components may have a direct effect on consumer behavior, reducing the role of brand trust as a mediating variable.

Table 4.3: Mediation analysis

Model Summary	**R**	**R-sq**	**MSE**	**F**	**df1**	**df2**	**p**
	0.9837	0.9677	0.0411	1087.7	4	145	0.00
Model	coeff	se	t	p	LLCI	ULCI	
constant	0.2682	0.065	4.1271	0.00	0.1398	0.3967	
Perceived Usefulness of AI Technology	0.2001	0.0356	5.6193	0.00	0.1297	0.2705	
Ease of Use of AI Tools	0.4674	0.0344	13.5772	0.00	0.3994	0.5355	
Reliability of AI-Generated Recommendations	0.1675	0.0302	5.5426	0.00	0.1078	0.2273	
AI-Driven Customer Service Efficiency	0.139	0.0341	4.0745	0.00	0.0716	0.2064	

The mediation research shows a good model fit with R value of 0.9837 and R-squared of 0.9677. This implies that the independent variables in the model explain around 96.77 percent of the variance in the dependent variable. This degree of explanatory power may instantly suggest a highly strong and predictive framework but it also calls for critical scrutiny. In behavioral research, particularly in studies regarding perceptual constructs such as AI utility, ease of use, and trust in the brand, a very high R-square typically suggests the possible occurrence of multicollinearity or common method bias. The earlier correlational study showed significant relationships between the variables, suggesting that the model is measuring similar constructs instead of unique ones. This begs the question as to whether the variables are truly independent predictors and whether there may be an overfitting of the sample data that may not be generalizable. The model is statistically significant as evidenced by the F-value of 1087.7 and p-value of 0.00. This implies that the independent variables together explain variations in consumer behavior towards fashion products. In this case, the statistical significance must be taken with caution since the large F-value might be inflated by the large shared variance across the predictors. The relatively low mean squared error of 0.0411 confirms the accuracy of the model, but it also raises questions whether the model is correctly depicting real behavioral patterns or just reflecting the uniformity of answers due to similar measurement scales.

Looking at the coefficients individually, the most relevant predictor is usability of AI tools with a coefficient of 0.4674 and a highly significant t-value of 13.5772. This is because customers value the ease and accessibility of the AI technology during making their behavioral intentions towards fashion items. From a consumer context, the convenience factor could also be a critical factor, potentially making other features like reliability and usefulness less visible, suggesting that consumers might prioritize convenience over a comprehensive assessment of AI performance. It may well be, however, that this measure is being filled with the wider concepts of trust and of pleasure, as opposed to usability, and therefore exaggerating the effect that this measure has.

The perceived usefulness of AI technology has a high positive impact, with a value of 0.2001. This is consistent with existing theoretical perspectives that suggest that customers' inclination to interact with fashion items increases when they perceive AI technology to be useful and value-adding. But the relative smallness of this coefficient's amplitude compared to ease of use raises important questions regarding the changing priorities of consumers. While utility is crucial, ease of consumer interaction with AI systems might be more significant. It is a sign of how consumption of digital products will change, where the user experience will become a more leading factor in their behavior.

The coefficient 0.1675 indicates that the reliability of AI-generated ideas has a significant influence on the dependent variable. This means that there is a belief in the reliability and correctness of the AI-generated output, which impacts the client's actions. However, the moderate amount of the impact suggests that, while important, dependability may not have

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as immediate an effect as ease of use or perceived usefulness. This shows that buyers could not fully evaluate the truth of AI recommendations but instead relied on surface impressions generated by usability and interface design. This raises questions about the degree to which users are interacting with AI systems and if the apparent trustworthiness of users is really reviewed or only assumed.

The coefficient for the efficiency of AI-driven customer service is 0.139, showing a small but substantial effect. This means that efficient AI interactions like Chabot's and automated aid positively influence consumer behavior, although their influence is fairly limited compared to other technological factors. One explanation is that customer service efficiency is perceived as a basic requirement and not a differentiating feature, therefore making it less powerful in terms of behavioral results. Or it might mean that consumers value the pre-purchase experience (e.g. product discovery, recommendations) more than the post-purchase or support experience.

The constant term is statistically significant and it means that consumers have a certain level of behavior towards fashion product even when the given variables are not present. This indicates that it is still influenced by other factors outside the model parameters like human preferences, cultural influences and the external marketing stimuli on client selections. The size of this constant shows that AI-related factors alone do not suffice to interpret intricate consumer behavior.

Structural Equation Model

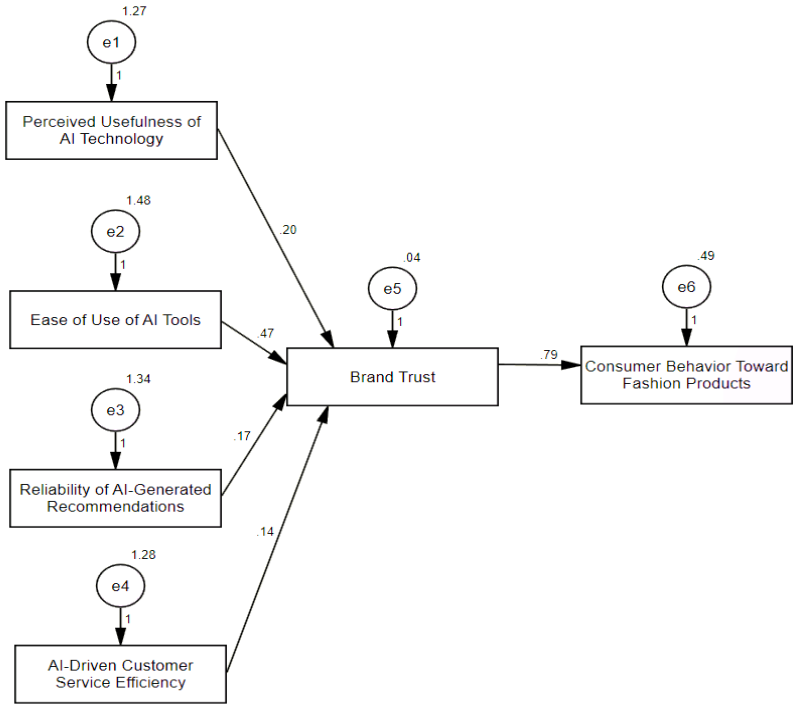

Table 4.4: Path analysis

Variable 1	Variable 2	Estimate	S.E.	C.R.	P
Brand Trust	Perceived Usefulness of AI Technology	0.2	0.014	13.802	0.00
Brand Trust	Ease of Use of AI Tools	0.467	0.013	34.828	0.00
Brand Trust	Reliability of AI-Generated Recommendations	0.168	0.014	11.881	0.00
Brand Trust	AI-Driven Customer Service Efficiency	0.139	0.014	9.618	0.00
Consumer Behaviour Toward Fashion Products	Brand Trust	0.787	0.083	9.492	0.00

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The path analysis helps to understand the direction of relationships among AI-related factors, brand trust, and consumer behavior for fashion goods, which improves the understanding of the proposed mediating mechanism in this study. The results unambiguously indicate that all the selected properties of AI-driven technology significantly boost brand trust, which consequently has a strong influence on consumer behavior. All the paths are statistically significant and are consistent with the conceptual framework, but a more detailed investigation shows complexities that need to be interpreted with caution.

Ease of use of AI technology is the most important predictor of brand trust with an estimate of 0.467 and a very high critical ratio of 34.828. This shows that the convenience and accessibility of AI technologies have a major impact on fashion companies' confidence. "The results show that consumers want easier digital interactions and that ease is linked to perceptions of trustworthiness and reliability. The degree of this link also raises serious concerns. This large effect may imply that ease of use is not just important for trust but may perhaps outweigh it, so confusing the conceptual difference between usability and trust. This overlap brings up the question of whether the brand trust is being built on its own or just reflecting a positive user experience using AI technology.

Trust in the brand is affected by the perceived usefulness of AI technology, estimated at 0.200. This means that if consumers see AI applications as useful and value-adding, the level of trust in the respective company increases. This is in line with the theories of acceptance of technology, but the lower coefficient shows that the usefulness, while considerable, is less important than the ease of use for the generation of trust. This shift in relative importance may imply an emerging consumer attitude where functional benefits are expected as a given and uniqueness is gained via seamless interaction rather than utility alone.

The reliability of the recommendations given by AI has a positive effect on brand trust (0.168). This points to the requirement for accurate and consistent AI outputs to gain the trust of customers. The relatively weak strength of this link suggests that buyers may not consider reliability in isolation significantly. Rather it is usually measured against other characteristics such as user-friendliness and overall system effectiveness. This intertwined image may hide the separate effect of dependability, leading to questions over whether consumers are really judging the trustworthiness of AI ideas or merely responding to general contentment with the technology.

Likewise, the effectiveness of AI-enabled customer service has a strong but relatively low influence on brand trust with an estimate of 0.139. This indicates that good AI-based interactions like automated support and Chabot's create trust. However, its impact is limited compared to other technological factors. One possibility is that customer service efficiency is seen as a basic operational need, not as a differentiator that builds trust. Or it may be that buyers in the fashion industry prefer pre-purchase experiences such as product discovery and customization over post-purchase support in building trust perceptions.

The most important link in the model is the relationship between brand trust and customer behavior for fashion products, where the estimate of 0.787 is strong and statistically significant. This underscores the significance of brand trust in translating thoughts of AI-powered technologies into actual consumer actions. The strength of this link provides support for the theoretical framework of brand trust as a key mediating factor, indicating that consumers are more likely to engage with fashion products when they have faith in the company's use of AI technology. However, the considerable magnitude of this influence definitely merits investigation. The strong correlations shown earlier between brand trust and the independent variables may suggest that this route is one of accumulated positive opinions rather than a separate trust-based approach.

From a critical point of view, the path analysis supports the correlations provided, and emphasizes the importance of brand trust as a mediator, but it also shows a highly saturated model, where the variables are closely linked. The high critical ratios and large p-values found in all the pathways suggest there is good statistical evidence although that could be impacted by multicollinearity and overlapping ideas found in previous investigations. This interrelatedness complicates the understanding of causal pathways and makes it impossible to identify the different contribution of each of the AI-related elements to the influence on trust and behavior.

5. DISCUSSION

The study's findings provide a complicated picture on the impact of AI-driven technologies on consumer behavior towards fashion products with brand trust as a mediating element. The results demonstrate solid statistical correlations across all the research, suggesting that perceived usefulness, ease of use, reliability, and efficiency of AI-powered customer service have a significant influence on brand trust as well as consumer behavior. A complete critical

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examination suggests that the strength and consistency of these correlations may not represent independent and autonomous effects, but a highly interconnected perceptual system among respondents (Yoon, 2023).

Among the findings from the analysis, there is a considerable effect of ease of use on brand trust and consumer behavior. Ease of use has the largest influence as shown by the mediation and path analyses. This means that consumers in the fashion industry prefer seamless and straightforward interaction with AI technology over other functional attributes. This tallies with contemporary digital buying tendencies but also generates considerable problems with regard to the depth of evaluation of the consumer (Gupta, 2024). The prevalence of usability over the other factors indicate that the consumers are making confidence and behavioral intentions based on shallow exposures rather than evaluating the actual performance or reliability of the AI systems. This has grave consequences to the businesses, proving that not only technical complexity can ensure client engagement, it has to be coupled with brilliant and user-friendly interfaces.

The highly high correlations between the independent variables and brand trust pose serious methodological challenges, notably in terms of multicollinearity and construct redundancy. The high association between usability and brand trust and the similar high correlations with perceived usefulness and dependability suggest that the respondents may not have regarded these characteristics as different entities. Instead, they have a tendency to cluster around an overall positive attitude to the AI technology. The absence of discriminant validity lowers the conceptual clarity of the study and complicates the process of finding out the special contribution of each variable. Thus, the mediating role of brand trust, while statistically tested, can be overestimated or partially veiled by the conjunction of the predictors and the mediator itself.

This problem is supported by the mediation analysis, since the extremely high explanatory power of the model implies that a large amount of variance in consumer behavior is explained by the variables in the model. This might be a good thing, but it also points to the possibility for overfitting, i.e. finding patterns that are particular to the samples, rather than the correlations that generalize. Such large quantities of explained variance are unusual in behavioural research and frequently indicate the existence of common procedure bias or homogeneity in replies. This raises questions regarding the robustness of the findings and whether the connections shown would be consistent across other contexts or more diverse populations.

The discussion is a key factor to the importance of reliability and effectiveness of customer service. Both characteristics are statistically significant, but their lower impact compared to ease of use may suggest that consumers may not fully scrutinize the accuracy or effectiveness of AI systems. This might indicate some passive acceptance, where consumers rely upon the perceived integrity of the brand rather than critically assessing the effects of AI. Such a method may put clients at risk, particularly if the AI recommendations are biased or wrong. This highlights the need of boosting accessibility while keeping the AI-driven operations transparent and accountable, from a management point of view.

The route analysis considers the important role of brand trust as a mediator via which AI-related aspects impact consumer behavior. The significant association between brand trust and consumer behavior underscores the importance of trust as a psychological process that transforms technological impressions into real-world effects. The correlation is strong, suggesting that brand trust may be including the effects of other overlapping categories and so it may be a cumulative representation of general enjoyment with AI technology, and not a distinct moderating feature. This raises important theoretical questions of whether brand trust should be conceptualized as a mediator or outcome of integrated technological perspectives.

In addition, the demographic features of the respondents complicate the study even further. The higher percentage of younger and lower level managers suggest that the findings may be driven by a more technologically savvy, and open to AI technology, group. Such demographic bias may partly explain the high levels of concordance and strong correlations seen in the data as such cohorts tend to have more homogenous opinions on technology adoption. Findings Findings may not apply to broader and more heterogeneous kinds of customers.

6. CONCLUSION

The paper pinpoints that there is a significant shift in the fashion company consumer behaviour, as AI technology is increasingly playing a role in decision making. The results, however, indicate that this is not necessarily because of a thorough understanding of the AI features, but it's more likely a positive perception with simple interaction and brand credibility. This is a significant concern, as it could lead to disruption if clients' expectations change or if there are negative experiences with AI systems.

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The results of the study highlight how important brand trust and the use of AI technology is to consumer behavior, identifying relevant limitations such as originality of ideas, possible multicollinearity and characteristics of the sample. The data needs to be taken with a pinch of salt because the correlations displayed might be the result of a general technological optimism, or not directly attributable to a single influence. The study suggests several areas for future research, such as exploring other moderating and mediating variables to further elucidate the link between AI, brand trust, and customer behavior in the fashion industry, and expanding the sample to include a more diverse group of individuals.

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