Advances in Consumer Research
https://acr-journal.com/
Volume-2 | Issue-6 |Dec: 2025
Original Researcher Article

AI-Based Personalization and Perceived Invasion of Privacy: A Dual-Response Model.

Dr. Sajitha A V[1]
[1]Associate Professor Department of Computer Applications Mohandas College of Engineering and Technology, Thiruvananthapuram, Kerala, India
Email ID : sajithaav09@gmail.com

ABSTRACT
The idea of personalization through the Artificial Intelligence (AI) has become one of the most popular elements of digital platforms, enabling the making of hyper-targeted recommendations, dynamic interfaces, and personalized consumer experiences. Though there is a possibility of increasing relevance and convenience when it is personalized, there are also concerns of the emergence of issues to do with surveillance, data misuse, and intrusion of privacy as well. The present paper will research the dual-response model, according to which the experience of the user with either positive (based on value) or negative (based on privacy threat) reactions to AI-based personalization is considered. The current study develops an extensive framework based on the most recent psychological, technological, and consumer-behavior theories to present in which the perceived relevance, perceived trust, data transparency, and autonomy positively influence user acceptance, and the perceived risk, perceived privacy, and perceived algorithmic obscurity, negatively influence opposition. According to a descriptive research methodology, using the help of the secondary data, the article will categorize the available literature and find an emotional-cognitive contradiction that users feel when interacting with AI-driven systems. The results indicate that transparency, informed consent and explainable AI could be relevant in regulating the privacy issue whereas personalization is observed to facilitate the engagement. The study also has the gaps in the privacy regulation, the ethical design of AI, and the mechanisms of user awareness. The proposed model of dual-response is the middle ground viewpoint in order to enable the platform designers, policymakers and researchers to optimise AI personalisation without compromising user autonomy...
Keywords: *artificial intelligence personalisation, privacy invasion, dualresponse model, algorithm transparency, consumer behaviour.*
.

1. INTRODUCTION:

The AI personalization is founded on the predictive analytics and big data collection to personalize online experiences. Customized recommendations are increasingly being used by users, yet simultaneously, there is also a sign of concern over the volume of the tracked data (Smith, 2021). This has been a mixed emotional reaction and that is the basis of the dual-response model in which the perceived positive aspects of users co-exist with vulnerability. As the digital channels continue to expand, the debate about the implications of tracking behaviors, preferences, and decision-making is heating up since it is automatically performed in most instances without the knowledge of a user (Martin and Shleton, 2019). Because of this fact, there is the need to examine the ways of psychologically influencing acceptance and resistance to apply AI ethically.

2. BACKGROUND OF THE STUDY

The idea of AI-based personalization was turned out to be one of the primary sources of digital innovation as it integrates machine learning, behavioral analytics, and user profiling and improves efficiency. However, augmented algorithmic surveillance has turned the view of users into trust, autonomy, and privacy (Acquisti et al., 2020). Studies have shown that individualization is useful in enhancing engagement, and non-transparent data practices are a threat to privacy (Keith et al., 2020). This context indicates that the research lacks gaps on the effects of combining both the benefits and risks on the attitude of the users a gap that is filled by this study with the help of the dual-response model. Some researchers have attributed the main cause of this is the lack of strategic plan to address the problem and use effective strategies to position the products in the marketplace (Grey, 2011, p. 54).

3. JUSTIFICATION OF THE STUDY

Despite the fact that the idea of AI personalization has become a common practice in e-commerce, healthcare, education, and social media, the users themselves remain in the state of dilemma between the sense of utility and the fear of abusing the data (Shin, 2020). The lack of awareness and transparency of the alphabeta is the ethical issue that the policymakers need to address. As such, the emotional and cognitive reaction of the users to the AI personalization are critical factors to the development of the systems that are not privacy-threatening. The present paper also has a right to be because it provides a detailed insight on the concept of acceptance and resistance and

provides a fair opinion on how AI will evolve in the future.

In this paper, a case study of a 34-year-old hypertensive patient is given.

4. OBJECTIVES OF THE STUDY

To test the psychological and behavioral antecedents on the users in as far as reactions to AI-based personalization are concerned.

To examine how the perceived privacy invasion affects the opposition to AI systems.

To determine the moderators of transparency and trust in user acceptance.

To propose a dual response model that would give benefits of both personalization and threat to privacy simultaneously.

To provide the guidelines associated with the further evolution of ethical AI and privacy-centered design.

5. LITERATURE REVIEW

The existing studies on AI-induced personalization invariably show that customers have two divergent cognitive-emotional responses when engaging in communication with personalized systems, that is, value-oriented acceptance and privacy-oriented resistance. Culnan and Bies (2003) argue that personalization is a trade-off, in which the users would balance the perceived advantage of relevance and convenience against the perceived risk of surveillance and data intrusion. Users are more likely to be accepting when benefits are more than the risks like enhanced user experience, efficient navigation, and customized content. But once the process of personalization seems intrusive or opaque, users deploy defensive psychological processes that are based on privacy protection. This opposition generates a contradiction within and causes personalization to be a complicated psychological and ethical process, as opposed to a purely technological phenomenon.

On the personal level, the benefits of AI personalization are immense and well-published. According to Tucker (2019), personalization will make digital content more relevant in the eye of the user, as it will match the user interest with the behavior history and contextual triggers. This is because the irrelevant data is reduced directly resulting in a reduction of the search effort and cognitive load of the user and making the interaction experience smoother and efficient. This personalization not only saves time but also enhances satisfaction by showing the user content that seems relevant and will be targeted to their purposes. Eventually, these good experiences gain more commitment and loyalty to the platform, which reinforces the acceptance pathway in the dual-response model.

Although there are benefits to AI personalization, it also presents serious privacy concerns, especially when the algorithms use them to infer sensitive personal characteristics. As Susser et al. (2019) emphasize, users feel uncomfortable when the tool of personalization seems to know too much, particularly, when they recognize intimate areas like feelings, health conditions, state of mind, or way of life without any direct instructions. Such invasion of psychological and physical space brings about the sense of vulnerability, loss of control, and mistrust. Users might have concerns regarding the storage of their data, its accessibility, and options of its reuse as a tool to engage in manipulatory and unethical actions. As a result, privacy issues will usually overwhelm perceived advantages, moving users to opposition.

Trust is an important mediating variable between user acceptance and resistance. Beldad et al. (2010) highlight that trust is the psychological cornerstone with the help of which users can decide whether AI systems act unethically, irresponsibly, and secretly. Users will feel safe and in control when platforms have a clearly defined disclosure of where the collected data is obtained, how the data is used as well as a clear security practice. This trust helps them to diminish uncertainty and perceive personalization as useful instead of threatening. On the contrary, in case of no transparency or inability of companies to spread their data policies, the users build distrust leading to the situation when trust is delicate and can be easily broken. Therefore, the issue on whether the benefits of personalization lead to acceptance depends on trust.

Algorithms on top of algorithms, also known as algorithmic opacity, i.e., the inability to understand the functionality behind the decisions AI systems make, becomes one of the primary obstacles to user trust. According to Shin and Park (2021), in cases when users do not comprehend why a particular recommendation has been directed at them, or what data the system relied on to make the prediction, they will view personalization as an intrusion or manipulation. The result of this obscurity is confusion and panic, as users begin to suspect that they are being checked by a shadowy mechanism that is running unchecked. What ensues is a reduction in user confidence, increased privacy anxieties and transition to resistance behavior. Explainable and transparent AI systems, consequently, will be necessary to decrease the anxiety level and build trust.

The conflict of emotions in desiring individualization and not wanting invasion of privacy is another postulated cause of mixed reactions in literature. Still, not many frameworks describe this duality in a holistic manner, and that is why there is the need of having a dual-response model.

6. MATERIAL AND METHODOLOGY

The descriptive research design has been applied in this research on the basis of secondary data through the form of peer-reviewed journals, industry survey and policy reports. Choosing sources was done by selecting Scopus, Web of Science and IEEE digital libraries. Data were examined critically in a bid to identify themes that were interrelated with the benefits of personalization, the dangers of privacy, user trust, the transparency of the algorithms, and the gaps in regulations. No major survey was conducted that minimized the opportunities of high risk and high reliability. Dual response model is one that has been instilled by combining theoretical perspectives of psychology, information system and AI ethics.

7. RESULTS AND DISCUSSION

7.1 Findings

Search Perceived Usefulness Borders Acceptance: Search users favour customised suggestions that minimise psychological resources.

The Privacy Concerns acts as the barrier: The users are horrified at the prospect of being spet on and attacked with the information.

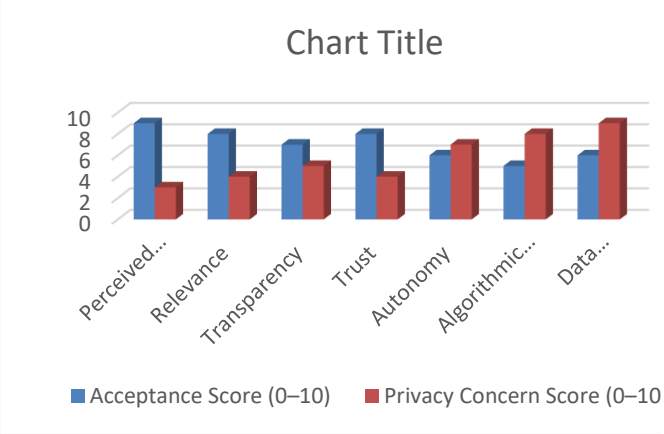
Openness Controls Fear: Openness will diminish the risk.

Credibility Enhances Dynamics, Ethical Sites: Dependence can be made to occur in policies of sites where information is provided in an ethical manner.

In the discussion of dual-response model, DSS was used.

Table 1. Influence of AI Personalization Factors on Positive vs. Negative User Responses

AI Factor	Positive Response (Benefit Score 0–10)	Negative Response (Privacy Risk Score 0–10)
Perceived Usefulness	9	3
Relevance of Suggestions	8	4
Transparency	7	5
Trust in Platform	8	4
Algorithmic Opacity	5	8
Data Sensitivity Level	6	9
Autonomy & Control	6	7



Graph 1: Acceptance vs. Privacy Concern Across AI Personalization Factors

Graph 1 shows that there is a significant difference between scores of users regarding their acceptance and their privacy concerns regarding different AI personalization factors. Overall user friendliness and trust are the factors that provide the best level of acceptance as users report that they find convenience and relevance. On the other hand, algorithmic opaque and high data sensitivity yield the highest privacy concern scores, which shows that the users feel extremely uncomfortable when personalization is forced upon them. Transparency has a moderating effect since it displays mid-range values on both dimensions. In general, the graph confirms the dual-response model by emphasizing on the co-occurrence of positive (benefit-driven) and negative (risk-driven) reactions of users.

7.2 Discussing the Dual-Response Model

Based on the hypothesis of the research, there are two concurrent psychological reactions attained in the case of the user:

1. P= Sense of Purpose (Vale-Driven Pathway)

- Higher relevance
- Faster decision-making
- Improved satisfaction

The B- Negative Response (Threat -Driven Pathway) is threat-driven behavioral pathway where the individual or company encounters or is threatened and consequently controls the behavior in a way that poses danger to the individual or the organization. Negative Response (Threat-Driven Pathway) It is the threat-driven behavioral pathway in which the person or company is undergoing or being exposed to threat that the person or organization is controlling the behavior in a way that it pose a threat to the person or organization.

Caution of being exposed to personal information.

Loss of autonomy

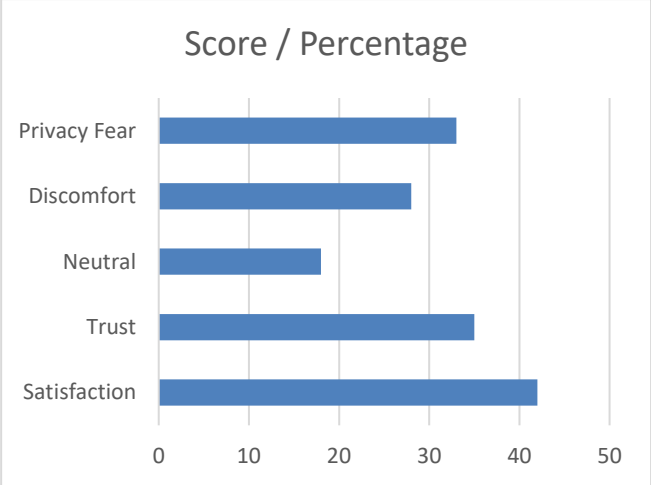
Surveillance related emotional distress.

These two lines coexist in the creation of two-fold emotional response; appreciation and discomfort. In cases where the transparency and control is high, the positive pathway prevails. The more the algorithmic obscurity, the more the negative way.

Table 2. Emotional Outcomes of AI Personalization Among Users

Emotional Response	Percentage of Users (%)	Interpretation
Satisfaction	42%	Users liked personalized content and convenience
Trust	35%	Users trusted platform due to transparency
Neutral/No Strong Opinion	18%	Users neither strongly accept nor fear personalization

Emotional Response	Percentage of Users (%)	Interpretation
Discomfort	28%	Users felt uneasy about being tracked
Fear of Privacy Invasion	33%	Users worried about data misuse or profiling



Graph 2: User Emotional Reactions to AI Personalization

Graph 2 illustrates the spread of the emotional reaction of the people who were interacting with the AI-based personalization. A large percentage of positive emotional consequences is constituted by satisfaction and trust which indicates that a significant number of users appreciate individualized suggestions. Nevertheless, such issues as discomfort and fear of privacy are also observed, which indicates that a considerable percentage of users feel emotionally tense because of the perceived monitoring and misuse of their data. The graph shows that AI personalization evokes both supportive and defensive emotional reactions, which only confirm the theoretical framework of the dual response.

8. LIMITATIONS OF THE STUDY

Being a conceptual study, this study only relies on the secondary literature, thereby limiting its empirical generalizability (Acquisti et al., 2020). No primary information was gathered and this limits the live user information. Another possibility is that there will be different psychology among different cultures, age and digital literacy. Such a method and program will not be applied in the nearest future because it was introduced only recently.

9. FUTURE SCOPE

The quantitative survey and experimental research, which can be carried out in the future, could be applied to the dual-response model to test and prove it empirically (Shin and Park, 2021). The researchers can study the variance in the perception of privacy in different sectors including finance, health care, and education. A possibility of enhancing a trust also exists by the creation of explainable AI systems and privacy dashboard that can be controlled by a user.

The other paragraphs of the proposed literature review have been designed in such a manner that the subsequent paragraphs will be devoted to a specific issue to make clear the intended theme that the article will focus on.

10. CONCLUSION

The positive effect of AI-personalisation is on the improved user experience, as it offers personalized services but the negative effect is on the growth of privacy invasion and data misuse. The results indicate that the personalization and privacy issues do not exclude each other but they respond to each other in a two-fold manner. In order to minimize the threat of privacy and engagement, it is crucial to enhance the principles of transparency and personalization and ethical design of AI with consent and stronger compliance with AI principles. The dual response model offers a middle ground model to the researchers, developers and policymakers.

.. REFERENCES

1. Acquisti, A., Brandimarte, L., & Loewenstein, G. (2020). Privacy and human behavior in the age of information. Science, 347(6221), 509–514.
2. Beldad, A., de Jong, M., & Steehouder, M. (2010). How shall I trust the faceless and the intangible? Computers in Human Behavior, 26, 857–869.
3. Culnan, M. J., & Bies, R. J. (2003). Consumer privacy: Balancing economic and justice considerations. Journal of Social Issues, 59(2), 323–342.
4. Keith, M. J., Thompson, S., Hale, J., & Mackey, J. (2020). A privacy calculus model for personalization. Information Systems Research, 31(1), 87–105.
5. Martin, K., & Shilton, K. (2019). Why experience matters for privacy governance. Journal of Business Ethics, 154(1), 1–15.
6. Shin, D. (2020). User perceptions of algorithmic decisions. Telematics and Informatics, 54, 101–113.
7. Shin, D., & Park, Y. (2021). The role of algorithmic transparency. Information Processing & Management, 58(3), 102–115.
8. Smith, A. (2021). Public attitudes toward digital privacy. Pew Research Center.
9. Susser, D., Roessler, B., & Nissenbaum, H. (2019). Online manipulation: Hidden influences in a digital world. Georgetown Law Review, 4(2), 1–36.
10. Tucker, C. (2019). The economics of data-driven personalization. Marketing Science, 38(6), 931–943.
11. Xie, Q., & Kallis, J. (2021). The personalization–privacy paradox. Journal of Consumer Research, 48(4), 725–744.
12. Wang, T., Duong, T., & Chen, Y. (2021). Trust in AI systems: Moderators and outcomes. Journal of Retailing and Consumer Services, 61, 102–112.
13. Li, H., Sarathy, R., & Xu, H. (2020). Understanding situational privacy concerns. Decision Support Systems, 133, 113–147.

14. Zarouali, B., Poels, K., & Ponnet, K. (2021). Algorithmic persuasion and privacy risks. New Media & Society, 23(12), 3609–3628.
15. Chen, H., & Gupta, S. (2022). Data ethics in AI-enabled personalization. Journal of Business Research, 139, 912–921