

HOW THE USAGE OF AI INFLUENCES THE PSYCHOLOGY OF THE CONSUMER FOR EDUCATIONAL SERVICES

STAN FLORIN ALEXANDRU

PHD CANDIDATE, BUCHAREST UNIVERSITY OF ECONOMIC STUDIES

e-mail: stanflorin22@stud.ase.ro

PANDURU ANDREI DORIAN

PHD CANDIDATE, BUCHAREST UNIVERSITY OF ECONOMIC STUDIES

e-mail: dorialpanduru@yahoo.ro

POPESCU NICOLETA

MASTER'S STUDENT, FACULTY OF ECONOMICS, UNIVERSITY CONSTANTIN BRÂNCUȘI

e-mail: nicopopescu849@yahoo.com

Abstract

This article explores how the integration of artificial intelligence in educational service contexts impacts consumer psychology, particularly learners' attitudes, motivations, perceptions, and behavioural intentions. Drawing on twenty years of marketing and consumer-psychology scholarship, the study first positions AI-driven educational services within the broader marketing ecosystem. Then, a quantitative study is reported in which a simple survey of 250 adult learners using AI-enhanced educational services was analysed to examine how perceptions of AI usage influence psychological and behavioural outcome. Results show that trust in the AI system and perceived personalization positively predict learner self-efficacy and engagement, which in turn mediate the relationship toward continued usage intention. Autonomy perceptions moderate the link between personalization and satisfaction, such that high autonomy strengthens the effect. The discussion interprets findings through the lens of stimulus organism response (SOR) theory and technology acceptance models, while considering ethical and psychological implications. The paper concludes with practical implications for educational service providers and suggestions for future research on psychological mechanisms of AI in learning environments.

Keywords: artificial intelligence, consumer psychology, educational services, personalization, learner engagement

Classification JEL: M31, I21, O33

1. Introduction

In recent years, the deployment of artificial intelligence across diverse service domains has accelerated rapidly, including notably in the educational services sector. Educational services which are ranging from online courses, adaptive learning platforms to intelligent tutoring systems and personalised recommendation modules are increasingly leveraging AI techniques to tailor experiences, improve engagement and refine outcomes. From a marketing and consumer psychology perspective, the provision of educational services to learners can be conceptualised similarly to consumer services regarding learners as service consumers, platforms and institutions as service providers and various psychological and behavioural outcomes of relevance. This article investigates how the usage of AI in educational services influences the psychology of the consumer. While much research in AI in education focuses on learning outcomes or system design, less attention has been paid to how AI usage shapes learner perceptions, motivations, trust, autonomy, satisfaction and behavioural intentions. By framing the learner as a consumer of an educational service, this study brings together marketing and consumer psychology theories as well as educational and technology deployment to explore the mechanisms by which AI influences learner psychology and consequent behavioural intention.

The introduction of AI into educational services poses unique psychological challenges and opportunities. On one hand, AI-driven features such as adaptive content sequencing, intelligent feedback and predictive analytics promise greater personalization, responsiveness and efficiency. From a consumer psychology viewpoint, personalization fosters stronger perceived relevance, higher perceived value and potentially greater satisfaction and engagement. On the other hand, AI raises concerns around learner autonomy, trust, perceived ethicality and even technology aversion. In other service domains, researchers have documented how AI interactions differ psychologically from human interactions.

From a marketing researcher’s point, the learner’s decision to engage with an AI-enhanced educational service mirrors a consumer’s decision to purchase or continue with a service subscription. Constructs like satisfaction, perceived usefulness, self-efficacy, and behavioural intention come to the fore and theories like Technology Acceptance Model (TAM), Stimulus Organism Response (SOR) and Self-Determination Theory (SDT) provide useful scaffolding. When AI is the “service agent” or mediating technology between provider and learner, service quality, personalization, transparency and perceived autonomy become relevant stimuli that affect the organism and lead to behavioural responses.

Specifically, in the educational service domain, one may say that AI usage enhances perceived personalization and adaptive support, increasing learner engagement, perceived self efficacy and satisfaction. These psychological states in turn increase behavioural outcomes such as continued usage, advocacy and loyalty. However, this pathway might be moderated by learner perceptions of autonomy and trust in the AI system. If autonomy is low or trust weak, the positive effect of personalization might be attenuated. For example, learners might perceive the AI system as controlling or opaque, which could diminish satisfaction or engender psychological reactance. In this article we argue that understanding the psychological interplay between AI features in educational services and learners’ internal responses is essential for both theory and practice.

2. Literature Review

2.1 AI in Marketing and Consumer Psychology

The incorporation of AI in marketing has been widely documented. For example, AI in marketing, consumer research and psychology: a systematic literature review and research agenda provides a comprehensive mapping of how AI intersects marketing, consumer research and psychology, identifying eight key topical clusters including decision-making, technology adoption, anthropomorphism, and customer behaviour. (Mariani et.al, 2021). This meta review emphasises that AI changes how consumers interact with services, shifting the stimulus agent from human to algorithm, altering psychological responses. For instance, consumers may experience algorithmic aversion or enhanced personalization depending on their perceptions of the AI system.

Another strand of literature examines how AI in marketing affects consumer decision making and welfare. For example AI, Behavioural Science, and Consumer Welfare posits that AI’s pattern detection capabilities both enable useful behavioural interventions and poses risks (Mills, Costa, Sunstein, 2023). So, from a psychological angle, AI introduces new stimuli (e.g., personalization, algorithmic feedback, real-time adaptation) that interact with consumer cognition and emotions and elicit response behaviours. Likewise, in pricing research, the impact of differential pricing subject on consumer behavior found that consumers respond differently when AI rather than humans set prices: trust, mind-attribution and ethical perceptions mediated outcomes.(Chen et. al., 2024) For educational services, analogous dynamics may hold: AI becomes the agent delivering educational service rather than a human tutor or administrator.

Another review, Artificial Intelligence in Digital Marketing: Enhancing Consumer Engagement and Supporting Sustainable Behavior Through Social and Mobile Networks, finds that trust, transparency, perceived benefits and perceived risks significantly affect consumer acceptance of AI-driven marketing. (Acatrinei et.al, 2025) These constructs: trust, transparency, perceived

benefit, perceived risk, are directly transferable to the educational services context when AI is used to personalise learning, produce content or provide feedback.

2.2 AI in Educational Services and Learning Technologies

The educational services domain is undergoing rapid transformation via AI. For instance, the article *Adaptive Learning Using Artificial Intelligence in e-Learning: A Literature Review* reviews how adaptive learning platforms leverage AI/ML to optimise student engagement, retention and performance. (Gligorea et.al, 2023) Similarly, *Leveraging AI in E-Learning: Personalized Learning and Adaptive Assessment through Cognitive Neuropsychology: A Systematic Analysis* synthesises evidence of AI improving learner engagement, motivation and outcomes via personalised learning and adaptive assessment. (Halkiopoulus, Gkintoni, 2024) Moreover, the article *Self-regulated learning and engagement as serial mediators between AI-driven adaptive learning platform characteristics and educational quality: a psychological mechanism analysis* examines psychological mechanisms: self-regulated learning and engagement mediate the link between AI platform characteristics and educational quality (Ouyang, 2025).

From a marketing consumer lens, these studies highlight that AI in educational services impacts learner psychology, not only in behavioural outcome but also in attitudes, motivation, engagement and self-efficacy. In addition, research such as *Exploring the Acceptance and User Satisfaction of AI-Driven e-Learning Platforms (Blackboard, Moodle, Edmodo, Coursera and edX): An Integrated Technology Model* investigates learner satisfaction and intention to use AI driven e-learning platforms, finding that perceived usefulness, satisfaction and behavioural intention are mediated by AI characteristics. (Saqr et.al, 2023) So, the literature demonstrates both technical/educational and psychological/consumer dimensions of AI in educational services.

2.3 Psychological Mechanisms: Personalization, Trust, Autonomy, Self Efficacy, Engagement, Satisfaction

Drawing from consumer psychology and educational psychology, key psychological constructs emerge as relevant in the context of AI-enabled educational services. Personalization is a major stimulus: AI enables tailoring of content, pace and feedback to individual learners, enhancing perceived relevance, value and also engagement. In marketing contexts, personalization has been shown to increase perceived benefit and consumption behaviour. Trust is central: when a service is delivered via AI, consumer/learner trust in the system influences acceptance and satisfaction. The differential pricing study above shows that perceived ethicality and mind attribution mediate consumer responses to AI. In educational contexts, learners may similarly question algorithmic decisions or feel uncertain about the system's fairness. Autonomy refers to the learner's sense of control over their learning process. From Self-Determination Theory (SDT), autonomy is a key motivational driver, for example if AI processes feel controlling or opaque, autonomy may be compromised, reducing motivation, engagement, and satisfaction. Self efficacy concerns the learner's belief in their capability to succeed; AI-enhanced systems may sustain self efficacy through adaptive feedback, scaffolded learning, improved success experience. Engagement is a proximal organism state linking stimuli to outcome behaviour. Satisfaction is a consumer psychology outcome reflecting the quality of experience relative to expectations and is a strong predictor of future usage and advocacy. To conclude, a conceptual model can be articulated: AI usage features lead to learner psychological states, which lead to behavioural outcomes. Moderators such as learner characteristics and contextual factors may influence these pathways. The gap this study addresses is the relative lack of empirical work linking these consumer psychology constructs specifically to AI in educational services, from a marketing/consumer-behaviour lens.

2.4 Gaps and Research Questions

First, while educational-technology research examines AI's impact on learning outcomes, fewer studies explicitly explore learner psychological states from a consumer behaviour lens and how they mediate behavioural intention in AI enhanced services. Second, the moderating role of autonomy perceptions and trust in AI systems remains under-explored in the educational service context. Third, while personalization is broadly acknowledged, its psychological mechanisms have rarely been modelled in one integrated consumer-psychology framework within educational services. Therefore, the present study addresses the following research questions:

1. How does the learner's perception of AI-driven personalization and trust influence psychological states such as self efficacy, engagement and satisfaction in an educational service context?
2. How do those psychological states mediate the relationship between AI usage features and behavioural intention in educational services?
3. Does learner perceived autonomy moderate the effect of personalization on satisfaction and engagement?

3. Research Methodology and Data Analysis

The type of research was a quantitative research, using the instrument of online questionnaire to collect data from the participants. A sample of 250 adult learners (aged 18–55) enrolled in an online educational service that uses AI-driven personalization was recruited via an email invitation. After deleting incomplete responses, 238 valid questionnaires remained (response rate of approximately 95%). Participants completed a survey measuring perceptions of AI usage, psychological states, behavioural intention and perceived autonomy. All items used 7-point Likert scales (1 = strongly disagree, 7 = strongly agree).

What was measured:

1. Personalization (“The learning system adapts to my individual pace and needs”)
2. Trust (“I trust that the AI system makes fair and reliable decisions”)
3. Self efficacy (“Using this system increases my confidence in mastering the material”)
4. Engagement (three dimensions: cognitive, emotional, behavioural)
5. Satisfaction (overall satisfaction with the service)
6. Behavioural intention (“I intend to continue using this service”, “I would recommend this service to others”)
7. Autonomy: (“I feel I am in control of my learning pace and choices in this system”)

Data were analysed using SPSS v.27. Descriptive statistics and reliability (Cronbach's α) were computed. Correlation analysis examined relationships among variables. Mediation and moderation analyses were performed using PROCESS macro (Model 4 for mediation, Model 1 for moderation).

All scales had good reliability (Cronbach's $\alpha > .80$). Descriptive statistics showed moderate to high mean scores for personalization ($M = 5.3$), trust ($M = 5.1$), self efficacy ($M = 5.4$), engagement ($M = 5.2$), satisfaction ($M = 5.5$) and behavioural intention ($M = 5.6$).

Correlation analysis revealed significant positive associations among personalization, trust, self efficacy, engagement, satisfaction and behavioural intention (all $p < .001$). For example, personalization correlated with self-efficacy ($r = .45$), engagement ($r = .42$), and satisfaction ($r = .47$). Trust correlated with engagement ($r = .38$), satisfaction ($r = .44$) and behavioural intention ($r = .40$).

Mediation analysis showed:

Personalization → self-efficacy → behavioural intention: indirect effect = 0.15, 95% CI [0.09, 0.22]

Personalization → engagement → behavioural intention: indirect effect = 0.12, 95% CI [0.07, 0.18]

Trust → self-efficacy → behavioural intention: indirect effect = 0.10, 95% CI [0.05, 0.16]

Trust → satisfaction → behavioural intention: indirect effect = 0.13, 95% CI [0.08, 0.19]

Moderation analysis tested whether perceived autonomy moderated the link between personalization and satisfaction. The interaction term personalization and autonomy was significant ($\beta = 0.19$, $p < .01$). Simple slopes analysis showed that for learners with high autonomy (one standard deviation above mean), the slope of personalization → satisfaction was stronger ($\beta = 0.62$) compared with low autonomy ($\beta = 0.45$).

The empirical findings support the conceptual model: AI-driven personalization and trust in the AI system act as stimuli that enhance learner psychological states, which in turn lead to stronger behavioural intention. The moderation by autonomy indicates that when learners feel they retain control over their learning, personalization is more effective in enhancing satisfaction. In practical terms, this suggests that educational service providers that implement AI personalization must also ensure that learners feel autonomous, not merely guided or controlled by the AI. From a consumer psychology perspective, these results parallel findings in retail or service settings: personalization enhances perceived value and engagement; trust in AI mitigates risks and supports acceptance; satisfaction and self-efficacy mediate usage intention. The specific educational service context emphasises learning specific psychological constructs rather than simply purchase intention.

From the lens of the SOR model, AI features lead to internal learner states which produce behavioural responses. And from TAM/UTAUT frameworks, perceived usefulness and perceived ease/trust support usage intention. Additionally, from SDT, autonomy plays a moderating role in motivation and satisfaction.

4. Conclusions

This article has investigated how AI usage in educational services influences consumer psychology and behavioural intentions. The empirical evidence confirms that personalization and trust associated with AI systems facilitate psychological states such as self efficacy, engagement and satisfaction, which in turn promote continued usage and advocacy behaviour. Importantly, the sense of autonomy moderates the effect of personalization on satisfaction, highlighting that learners must feel in control even in AI-driven learning environments. From a theoretical standpoint, this research bridges marketing/consumer psychology and educational technology literatures by framing the learner as a consumer of an AI-enabled service and focusing on psychological mechanisms. From a practitioner perspective, educational service providers should pay attention to both the technical deployment of AI features and the learner's psychological experience, ensuring trust, control, personalization and engagement are carefully balanced.

The findings point to the broader trend that AI does not just deliver efficiency in educational services, but also transforms the psychology of consumption of those services. Future research should extend these insights across diverse educational contexts, embed longitudinal designs, and explore additional psychological moderators. In doing so, a more nuanced understanding of how AI influences educational service consumption and learner outcomes can be built, ultimately enhancing both marketing strategy and educational effectiveness.

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