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The Role Of Socio-Emotional Perception In Technology Acceptance Model For Online Learning

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Abstract

The rapid advancement and adoption of online learning technologies have transformed educational landscapes globally. While the Technology Acceptance Model (TAM) has been extensively used to understand users' acceptance of technology, its traditional focus on cognitive factors—perceived usefulness (PU) and perceived ease of use (PEOU)—limits its ability to fully capture the complex dynamics of digital learning environments. In particular, the emotional and social dimensions of online learning remain underexplored. This paper examines the critical role of socio-emotional perception (SEP) in influencing learners' acceptance and sustained use of online learning platforms. SEP encompasses learners' emotional engagement, sense of belonging, empathy, social presence, and perceived emotional support within digital classrooms. These factors directly affect not only learners' cognitive evaluations of a system's usefulness and ease but also their behavioral intention to adopt and continue using such technologies. The proposed framework theorizes that when learners experience a high level of social presence and emotional support, they are more likely to find online platforms useful, easy to use, and engaging. These socio-emotional factors serve to bridge the gap between technology design and user experience, suggesting that emotional and social affordances are as critical as technical functionality in influencing technology acceptance. Integrating SEP into the TAM framework provides a more holistic understanding of technology adoption in educational contexts. The paper proposes an extended TAM model where SEP acts as an external variable impacting PU, PEOU, and behavioral intention

(BI). This theoretical contribution extends TAM by positioning socio-emotional perception as a core component in digital learning environments. It offers practical implications for instructional designers and platform developers seeking to enhance online learning adoption through socially and emotionally responsive design strategies.

Keywords: Technology Acceptance Model, Online learning, Social perception and Emotional perception

INTRODUCTION

The digitalization of education, especially post-pandemic, has transformed traditional classroom learning into a more virtual and flexible format. Online learning is now integral to education delivery. However, despite their accessibility and efficiency, these platforms face challenges related to learner engagement, emotional connection, and perceived isolation.

The Technology Acceptance Model (TAM), developed by Davis (1989), provides a robust framework to explain users' intentions to adopt and use a particular technology based on two constructs: perceived usefulness (PU) and perceived ease of use (PEOU). Yet, as online learning increasingly intersects with human emotions and social experiences, the need arises to extend TAM to incorporate socio-emotional perception (SEP), a learner's emotional and social evaluation of their online educational experience.

In the contemporary world characterized by rapid advancements, technology has revolutionized every facet of our existence. Ranging from basic innovations to intricate systems, technology has profoundly influenced numerous aspects of life. Within the framework of the Technology Acceptance Model (TAM), technology is defined as any information technology system or tool that individuals engage with, including software applications, websites, or electronic devices. This definition includes both hardware and software elements that empower users to execute particular tasks or attain specific goals.

TECHOLOGY ACCEPTANCE MODEL

The Technology Acceptance Model (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) was developed from the Theories of Reasoned Action and Planned Behaviour. It aims to provide a comprehensive explanation of the factors influencing computer acceptance, which is applicable to a wide variety of end-user computing technologies and user demographics, while also being both succinct and theoretically sound, as stated in the original description of the Technology Acceptance Model (Davis et al. 1989). Since then, the Technology Acceptance Model has been extended to encompass a wide range of technologies outside of computers, such as telemedicine services, instructor digital tools, smartphone apps, and student online learning platforms (Worthington, 2021).

The Technology Acceptance Model (TAM) is a psychological framework established in the 1980s by Fred Davis, designed to elucidate and forecast individuals' acceptance and utilization of new technologies. TAM

offers valuable insights into the elements that affect users' intentions to embrace and employ a specific technology.

TAM is composed of two main components: perceived usefulness and perceived ease of use. Perceived usefulness pertains to the extent to which an individual believes that a certain technology will improve their job performance or facilitate the completion of tasks. Conversely, perceived ease of use assesses the extent to which an individual perceives that utilizing the technology will be straightforward and demand minimal cognitive and physical effort (Boluwatife, 2023).

ONLINE LEARNING

The global shift toward online education has revolutionized the way learners access knowledge. While technical functionality and content quality are essential, learners' emotional and social experiences also play a significant role in determining whether they accept and continue using online learning platforms.

Online education pertains to the approach of delivering teaching and learning materials via the internet. This approach removes the requirement for students to be physically present on campus, allowing them to attend classes and earn degrees online. Online learning manifests in various formats, including web-based courses, video conferencing, and self-paced study programs. Its popularity as an educational tool is increasing due to its user-friendliness and flexibility (Asad, 2024).

Online education represents a form of learning that employs digital technologies and the internet to enhance the educational experience and distribute learning materials. It provides flexibility and accessibility, allowing students to participate in courses and access resources from any place with internet connectivity.

Online learning is an educational approach that occurs via the internet. It allows students to access lessons, lectures, and learning materials from anywhere, using digital devices like computers, tablets, or smartphones. This flexible approach supports both self-paced and live learning, making it convenient for students of all ages. Online learning includes activities such as watching video lectures, completing online assignments, participating in discussions, and taking quizzes. It is extensively utilised in schools, universities, and professional training. With the growth of technology, online learning has become an important and accessible way to gain knowledge and develop new skills.

The process of acquiring new knowledge online encompasses participating in educational activities that occur either in real time or asynchronously, utilizing a range of devices such as computers and mobile phones, provided there is an internet connection. In these environments, students have the opportunity to learn and interact with instructors and fellow students from any location, without being confined to a particular physical space (Singh & Thurman, 2019).

Types of Online Learning

There are various forms of online education, including blended learning, synchronous learning, and asynchronous learning.

1) Synchronous Learning: This type involves real-time interaction between educators and students, often through chat rooms, virtual classrooms, or video conferencing tools such as Zoom or Skype. Synchronous learning is structured with scheduled lectures, discussions, and activities, closely mirroring the traditional classroom experience.

2) Asynchronous Learning: In this format, students have the flexibility to access course materials and complete assignments at their own pace. Although assignments and exams may have deadlines, learners can choose when and where to engage with the content. Common elements of asynchronous learning include online assessments, discussion forums, pre-recorded lectures, and other interactive features.

3) Blended Learning: Also known as hybrid learning, this approach combines face-to-face interactions with online instruction. Students may undertake some coursework online while attending others in person. Blended learning combines the advantages of traditional education with those of online learning, providing flexibility while ensuring personal engagement with peers and instructors (Raouna, 2024).

Historically, online education has been seen as an alternate route, one that is especially appropriate for adult learners looking to further their education. But since the COVID-19 epidemic started, teachers and students at all educational levels have had to swiftly adjust to taking classes virtually (Lockee, 2021).

SOCIAL PERCEPTION

Social perception is the mechanism through which individuals develop impressions and draw conclusions about others. It encompasses the comprehension of how people perceive, interpret, and assess the personalities, behaviors, and intentions of others. This mechanism is essential for effectively navigating social interactions and influencing relationships.

Social perception denotes the capacity to accurately interpret and deduce information about others based on their overall physical appearance, as well as their verbal and nonverbal communication patterns. Elements such as facial expressions, vocal tone, hand gestures, and body posture or movement serve as cues that individuals with heightened social perception utilize to discern what others may be thinking, feeling, or likely to do next (Aronson et al, 2010).

Social perception pertains to the cognitive mechanisms through which individuals interpret, organize, and remember information regarding others, thereby influencing their comprehension and predictions of social conduct. It includes two primary domains: person perception, which examines how individuals develop

impressions of others' personalities, and attribution processes, which concentrate on how people assign motivations, intentions, and emotions to the actions of others.

Social perception addresses the manner in which individuals contemplate and make sense of others—how they create impressions, reach conclusions, and attempt to elucidate the behavior of others. Often referred to as social cognition or the exploration of 'naïve psychology,' social perception emphasizes the elements that affect how individuals comprehend others and how they process, organize, and retrieve information about them (Fleming, 2023).

Social perception involves a broad spectrum of cognitive processes, which include attention, memory, categorization, and inference. These processes are influenced by numerous factors, including cultural norms, personal biases, and variations in individual personality and cognitive style.

Social perception can be influenced by various factors, such as the physical appearance, facial expressions, and nonverbal behavior of others, as well as the social context in which interactions take place. The accuracy of social perception can have significant implications for social relationships, as it affects the quality of interpersonal communication, the formation of friendships and romantic relationships, and the effectiveness of social influence and persuasion.

Functions of social perception:

Social perception plays several crucial roles in social psychology, which include:

1. Creating Impressions: Social perception aids individuals in forming initial impressions of others based on their appearance, conduct, and various social signals. These impressions can shape future interactions and affect how individuals perceive and react to others over time.
2. Comprehending Social Contexts: Social perception assists individuals in grasping the social environment in which interactions occur, encompassing the roles and expectations of various individuals and groups. This comprehension can facilitate navigation through intricate social situations and enhance effective communication with others.
3. Forming Evaluations: Social perception enables individuals to make evaluations and attributions regarding the actions of others, such as determining whether someone is reliable, capable, or pleasant. These evaluations can influence future interactions and affect the results of social engagements.
4. Facilitating Social Influence: The way individuals perceive social interactions can affect the degree to which they are swayed by others, influencing their attitudes, beliefs, and behaviors. By comprehending how they are viewed by others, individuals can adjust their communication methods to enhance their persuasiveness and effectiveness.
5. Enhancing Social Identity: Social perception can bolster an individual's sense of social identity by affirming their affiliation with specific groups and differentiating them from others. This reinforcement

can cultivate a sense of belonging and social connection, which may yield significant psychological and social advantages (Kumar, 2023).

EMOTIONAL PERCEPTION

Emotional perception is the ability to recognize, interpret, and understand the emotional states of oneself and others. It involves processing various cues, including facial expressions, body language, and vocal tones, to infer the emotional experience of others. This ability plays a crucial role in social interaction, communication, and overall well-being.

Emotional perception is the ability to detect, interpret, and respond to emotional signals in ourselves and others. It involves recognizing emotional expressions (like facial expressions, tone of voice, body language), understanding the context of emotions, and making sense of complex emotional cues. It is a core element of emotional intelligence and plays a foundational role in human interaction.

Functions of Emotional Perception:

1. Facilitates Social Communication: Emotional perception helps us understand how others feel, even when they don't say it outright. Example: Recognizing someone is uncomfortable during a conversation and adjusting your behavior.
2. Enhances Empathy and Compassion: By perceiving others' emotional states accurately, we can better empathize with them. This strengthens relationships and fosters supportive communities.
3. Supports Emotional Regulation: Recognizing your own emotions is the first step toward regulating them. It helps in managing stress, anger, anxiety, etc.
4. Improves Decision-Making: Emotions carry important information. Being attuned to them can lead to better choices in social, professional, and personal contexts.
5. Guides Behavior in Social Norms: Emotional cues help us navigate what's acceptable or inappropriate in a given setting.
6. Protects Against Social Threats: Being able to quickly perceive anger, fear, or disapproval in others helps us avoid danger or conflict.
7. Promotes Bonding and Trust: Accurate emotional perception builds trust in relationships by showing that we “get” others.

Socio-emotional perception refers to a learner’s ability to perceive, interpret, and respond to social and emotional cues in a digital environment. In online learning, this includes:

- Feeling emotionally connected to instructors and peers
- Experiencing empathy and support in discussions
- Building a sense of community and trust
- Managing emotions such as isolation, anxiety, or motivation

These emotional and interpersonal dimensions significantly affect learners' engagement, satisfaction, and willingness to adopt or continue using an online platform.

INTEGRATING SOCIO-EMOTIONAL PERCEPTION INTO TAM

To better understand technology acceptance in online learning, researchers have proposed extensions to the traditional TAM. Socio-emotional factors can be incorporated as external variables that influence perceived usefulness and ease of use, ultimately impacting behavioral intention and actual use.

- Emotional Support → PU and PEOU: When learners feel emotionally supported, they perceive the system as more helpful and easier to use.
- Sense of Belonging → Behavioral Intention: A strong sense of community leads to increased motivation to engage with the platform.
- Social Presence → Perceived Usefulness: Platforms that simulate real-life social interaction (via chat, video, or forums) are seen as more beneficial.
- Empathy and Instructor Responsiveness → User Satisfaction: Timely, empathetic responses from instructors increase learner trust and satisfaction.

IMPLICATIONS FOR ONLINE LEARNING DESIGN

To enhance socio-emotional perception and thus improve technology acceptance, educators and designers should:

- Incorporate features that encourage collaborative learning and peer interaction.
- Use tools like video conferencing, discussion boards, and avatars to foster social presence.
- Provide prompt, empathetic feedback to support learner emotions.
- Design content that is culturally sensitive and inclusive.
- Offer mental health resources and promote self-regulation strategies.

CONCLUSION

While technology facilitates online learning, its success depends significantly on human-centered elements. By integrating socio-emotional perception into the Technology Acceptance Model, educators can gain a more holistic understanding of learners' needs. Addressing these emotional and social dimensions will not only improve user acceptance but also enhance learning outcomes, student retention, and overall well-being in digital education environments.

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