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An Affordance Perspective Of RAs 2.0: Theorizing The New Generation Of Recommendation Agents

TREO Talk Paper

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Abstract

With the advent of rapid technological advancements in artificial intelligence (AI), data analytics, Internet of things (IoT), semantic web, cloud and mobile computing, coupled with the explosive growth of big data, a new generation of AI-driven recommendation agents (RAs) has emerged and continued to evolve and present possibilities to diverse application domains. However, extant information systems (IS) studies have predominantly focused on user perceptions and evaluations of traditional non-intelligent product-brokering recommendation agents (PRAs), supported by empirical studies on custom-built experimental RAs which heavily rely on explicit user preference-elicitations. As the nature of RAs has evolved from primarily ad-hoc, task-based and short-term transaction-focused product-brokering tools, to intelligent and autonomous assistants that foster long-term digital companionships with users, the need for a better understanding of the formation of trust, affection, attachment, commitment, and intimacy between users and the new generation of RAs has become a research and practical necessity. To fill the void of research in the new generation of intelligent RAs, this paper aims to study consumer responses to AI-driven RAs using an affordance perspective, making this research the first attempt in the IS discourse to link RA design artifacts, RA affordances, RA outcomes and user continuance intentions, and examine how actualized RA affordances influence user engagements with and evaluations of these highly personalized systems, which increasingly focus on user experiences and long-term relationships.

In view of contributing to this understanding, this paper conceptually defines and typologizes the new generation RAs 2.0 that leverages the latest technological advancements in artificial intelligence and big data and employs an affordance-based lens to illuminate the symbiotic relationship between RA capabilities and a user's goal and action. In addition, it proposes an overarching comprehensive framework for the key technological and affective affordances of RAs 2.0 provided by both mechanics and dynamics design artifacts, as well as the influences these affordances have on user engagement and evaluation, which in turn, affect one's perceived digital companionship, perceived service quality and continuance intention. Moreover, this paper identifies potential areas of future research for scholars in the RA discourse and develops testable propositions derived from multiple theoretical perspectives. For practitioners, it also provides advice and important guidelines concerning the effective design and development of the new generation of RAs.

Keywords: Recommendation agents (RAs), RAs 2.0, affordance, artificial intelligence (AI), deep learning (DL), digital companionship

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