

Digital Addiction and Consumption Decisions from a Behavioral Economics Perspective

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Abstract: From the perspective of behavioral economics, digital addiction, as a typical irrational behavioral phenomenon, has become a significant factor influencing individual consumption decisions in the digital age. This paper systematically analyzes the definition and characteristics of digital addiction, elucidates its theoretical foundation based on habit formation models and self-control issues, and dissects the formation mechanisms of over-guarantee paths, impulsive paths, and variable reward reinforcement. Furthermore, it explores the distorting effect of digital addiction on the consumption decision-making framework, demonstrating how it amplifies current preferences and cognitive biases, leading to decisions deviating from rational optimality. This, in turn, significantly enhances irrational consumption behavior through impulsive purchase paths and emotion regulation paths, ultimately forming a vicious cycle of distorted resource allocation. This research enriches the theoretical application of behavioral economics in the field of digital addiction and provides important theoretical support and practical insights for mitigating its negative impact on consumption behavior.

Keywords: Digital Addiction; Behavioral Economics; Consumer Decision-Making; Present Preferences; Impulse Buying

1. Introduction

The rapid development of digital technology has made smartphones and social media an indispensable part of people's daily lives, and has also given rise to the widespread phenomenon of digital addiction. From the perspective of behavioral economics, digital addiction can be regarded as a combination of habit formation and self-control problems, which cause individuals to deviate from optimal choices in time allocation and affect their overall well-being. [1] Furthermore, digital addiction

significantly changes consumers' decision-making framework by amplifying cognitive biases, such as present preferences and impulsivity, making online shopping and instant consumption behaviors more frequent. [2]

The research background of this study is rooted in the transformation of consumer behavior in the digital economy era, and its significance is reflected in both theoretical and practical aspects. Theoretically, this paper applies behavioral economics theory to the intersection of digital addiction and consumption decision-making, enriching the relevant literature; practically, the research results can provide a reference for consumer self-management, platform design optimization, and public policy formulation, helping to alleviate the negative impact of digital addiction on economic decision-making and promote sustainable consumption patterns. [3]

2. Digital Addiction from a Behavioral Economics Perspective

2.1 Definition and Characteristics

Digital addiction refers to an individual's excessive and compulsive use of digital devices and online activities, resulting in significant psychological, social and functional impairments. From a behavioral economics perspective, this phenomenon is manifested in the overvaluation of immediate rewards and the undervaluation of delayed rewards, forming a reinforcement pathology. [4] Its core characteristics include impulsive use, loss of control, withdrawal symptoms, increased tolerance and continued behavior despite negative consequences. These characteristics are highly consistent with traditional behavioral addictions, but specifically refer to the irrational bias in time allocation in the digital environment.

Furthermore, literature analysis shows that the core characteristics of digital addiction can be summarized in two aspects: first, the harm caused by behavior, such as social isolation, impaired work and study, and emotional distress;

second, the user's behavioral patterns, such as compulsive checking, time distortion, and loss of interest in other activities. [4] These characteristics highly overlap in internet, gaming, and smartphone addiction, highlighting cross-domain consistency.

2.2 Theoretical Basis

Behavioral economics provides a theoretical basis for digital addiction, mainly based on habit formation models and self-control issues. [5] Habit formation refers to current consumption increasing future demand, while self-control issues cause individuals to consume more than the optimal level planned in advance. This framework explains how digital technology reinforces the addiction cycle through instant feedback, which is consistent with traditional addiction theories.

In addition, the reinforced pathology framework views digital addiction as a result of overvaluing instant rewards, which is closely related to the discount rate of delayed gratification and present preference. [6] Behavioral economics theory emphasizes the role of cognitive biases in the digital environment, providing analytical tools for understanding the irrational decision-making in addiction.

2.3 Formation Mechanism

The mechanism of digital addiction involves multiple pathways, including the over-guarantee pathway, the impulsive pathway and the extraversion pathway (Figure 1). [5] These pathways are influenced by individual psychological characteristics, leading to different types of uncontrolled digital use, which are solidified through behavioral reinforcement cycles.

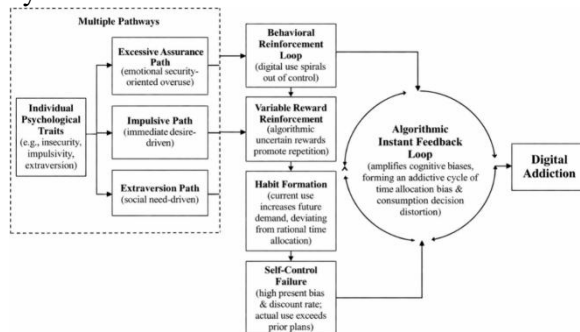


Figure 1. The Formation Mechanism of Digital Addiction

From the perspective of behavioral economics, the mechanisms also include variable reward reinforcement, habit formation and failure of

self-control. [6] Algorithm design and immediate reinforcement further amplify these mechanisms, causing individuals to fall into an addictive cycle of time allocation bias and consumption decision distortion.

3. The Impact of Digital Addiction on Consumption Decisions

3.1 Consumer Decision-Making Framework

Digital addiction fundamentally changes the traditional rational consumption decision-making framework, which, from the perspective of behavioral economics, manifests as the strengthening of bounded rationality and the preference for instant gratification. Digital addiction amplifies present preferences and cognitive biases, causing consumers to prioritize immediate rewards rather than long-term optimal allocations in the decision-making process, thereby distorting the allocation of time and resources. [7]

Furthermore, information overload, personalized recommendations, and social media group effects brought about by digital technology have exacerbated behavioral biases such as mental accounting and loss aversion, causing consumers to tend to make "good enough" rather than optimal decisions on digital platforms, and shifting the consumption framework from rational utility maximization to an irrational path driven by addiction. [7]

3.2 Influence Path

Digital addiction affects consumer decisions mainly through the impulse purchase path and the emotion regulation path. Smartphone addiction prompts individuals to regard devices as identity symbols and emotional relief tools, leading to an increase in compulsive buying behavior, manifested in high-frequency social network use and multiple devices significantly increasing compulsive tendencies. [8]

In addition, digital payment systems form a "spendception" mechanism by reducing the pain of payment, which further strengthens the impulse consumption path. Under the framework of behavioral economics, this path weakens psychological resistance, and the positive relationship between impulsive purchases, part of the intermediary digital payment, and overall purchasing behavior is particularly significant among women, exacerbating the addiction-driven irrational consumption cycle.

[9]

4. Conclusion

Within the framework of behavioral economics, digital addiction is considered a product of the combined effects of reinforced present preferences, habit formation, and insufficient self-control. It not only alters individuals' time allocation patterns but also profoundly impacts consumer decision-making frameworks by amplifying cognitive biases. Digital addiction prompts consumers to prioritize immediate gratification while neglecting long-term utility optimization, leading to increased impulsive buying, distorted resource allocation, and a vicious cycle of irrational consumption. This paper systematically reviews the definition and characteristics, theoretical foundations, formation mechanisms, and specific impact paths of digital addiction on consumer decisions, revealing the systemic biases in consumer behavior in the digital environment.

This study provides a theoretical integration for the cross-disciplinary research on digital addiction and consumption decision-making from the perspective of behavioral economics, enriching the literature in related fields. At the same time, its conclusions have important implications for practice: by improving individual self-control, optimizing the design of digital platforms, and formulating targeted public policies, the negative impact of digital addiction on consumption behavior can be effectively mitigated, and a more rational and sustainable consumption pattern can be promoted [10]. In the future, we can further explore the mechanism of action under cultural differences and empirical tests of intervention strategies to cope with the new challenges of the digital economy era.

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