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Intent-Based Payment in the Zero-Click Economy: Impacts, Risks and Responsible Innovation

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Abstract:

Against the backdrop of the booming Zero-Click Economy, AI-driven intent-based payment has emerged as a vital innovation in digital finance, bringing unprecedented transaction convenience while triggering potential risks and ethical problems. Taking Alibaba's Qianwen as a case study, this paper explores the operating mechanism of intent-based payment and examines its comprehensive effects from five dimensions: consumer behavior, enterprise operation, social governance, cultural psychology and technical ethics. The study reveals that intent-based payment falls into the "Frictionless Trap" while boosting efficiency, which erodes consumer sovereignty, forms enterprise data hegemony, causes regulatory gaps, and gives rise to ethical predation via affective computing and algorithmic discrimination. To address these issues, this paper proposes a systematic responsible innovation framework covering technical design, policy supervision, corporate responsibility and social participation. This research enriches the theoretical research on digital payment ethics and provides practical references for the standardized and sustainable development of intent-based payment as well as the protection of public digital sovereignty.

Keywords: Intent-Based payment; Zero-Click economy; Digital finance

1. Introduction

Now visibly receding is the era of the traditional checkout button, increasingly displaced by AI-driven, intent-based payment systems that exemplify the emerging "Zero-Click Economy" [1]. Drawing on multi-modal data streams, such systems infer unspoken consumer needs and then execute transactions autonomously, often with little active user intervention. In a period marked by decision fatigue, the attraction of cognitive offloading has only hastened this transition. Recent figures are revealing: shopper acceptance of AI-managed checkout rose from 34 percent in 2025 to 80 percent by 2026. Yet the

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convenience is not costless. Efficient though intent-based payments may be, they also risk eroding consumer sovereignty and opening the door to placatory practices via affective computing.

Across the existing literature, autonomous payment systems and cognitive offloading in digital consumption have already received sustained attention. Gerlich (2024), for instance, examines the ways AI tools recast cognitive offloading and weaken the critical thinking involved in everyday decision-making [2]. At the level of theory, Grinschgl and Neubauer (2022) clarify the mechanisms of distributed cognition in AI-enhanced settings, thereby providing an analytic basis for understanding human-machine substitution in decision processes [3]. Consumer sovereignty, by contrast, has been discussed primarily in relation to zero-price markets; within that debate, Davies and Georgieva (2022) note that algorithmic predictions can damage independent choice in digital environments [4].

Regarding regulation and algorithmic ethics, the record is equally suggestive, though somewhat fragmented. Wang (2022) reviews the regulatory dilemma posed by automated decision-making in China, emphasizing legal lag in relation to AI payment [5]. McStay (2020) raises ethical concerns tied to emotional AI and privacy surveillance, whereas Van Der Rest et al. (2021) warn that personalized pricing can exploit user vulnerabilities [6, 7]. Even so, and this is the central gap, only a limited number of studies bring large-scale commercial AI payment cases into the same analytical frame so as to examine the "Frictionless Trap" directly or to formulate a systematic responsible innovation framework.

The present paper addresses that omission through the case of Alibaba's Qianwen. At the center of the argument lies a straightforward claim. Left unchecked, the expansion of automated payment systems creates a "Frictionless Trap"—that is, a paradigm in which seamlessness is gained at the cost of human financial agency, even as cognitive debt accumulates beneath the surface. On that reading, the industry's need is urgent: a responsible innovation framework capable of channeling the efficiency of intent-based payment without sacrificing consumer rights or social equity. Technical transparency matters here. So do stringent regulatory oversight and meaningful corporate accountability.

To investigate these dynamics, a struct blue analysis is developed from four integrated perspectives. Firstly, through a case study of Alibaba's Qianwen, the practical application and operational logic of intent-based payment systems are examined. Secondly, the analysis evaluates the lay blue effects of frictionless transactions on consumption, market structure, social governance, and technological ethics (dimensions too often discussed in isolation). Thirdly, targeted strategies for the responsible innovation of intent-based payment are proposed. Finally, the discussion draws together the core findings and reflects on the future of digital sovereignty under conditions of financial automation.

2. Background

Across the longer arc of financial technology development, payment has moved from physical tender to digital, "instruction-based" transactions, and from there to the present "intent-based" model. Unlike earlier payment methods, intent-based payment operates through AI systems that use multi-modal data-including historical behavior, real-time location, and even emotional states-to anticipate a user's purchasing needs and complete transactions with minimal, or in some cases zero, conscious input. Underneath this shift lies the convergence of computer vision, deep learning, and agentic AI architectures capable of executing multi-step tasks autonomously within defined guardrails. By 2026, the market will have crossed a critical threshold: survey evidence indicated that 80% of shoppers were open to AI tools handling checkout independently, up sharply from just 34% in early 2025. That jump, abrupt though it seems, signaled the arrival of the "Zero-Click Economy."

3. Multi-Dimensional Impact Analysis

Within digital finance, the shift toward intent-based models marks a basic reordering of system architecture. More than a technical upgrade, it reworks the relationship between human agency and algorithmic execution. Through the integration of multi-modal data-behavioral histories, for example, alongside real-time emotional states-intent-based payment systems infer needs autonomously and complete transactions accordingly. The market under these conditions, is moving toward a Zero-Click Economy, with 80% of shoppers indicating openness to AI tools independently handling checkout. What follows examines this transition across five intersecting dimensions: consumer behavior, enterprise power, social governance, cultural psychology, and technical ethics.

3.1 Consumer Behavior Perspective

Seen from the consumer side, intent-based payment offers clear advantages: it eases decision fatigue and lightens mental burden. Central to Qianwen's utility is the blueuction of cognitive friction through an automated interface. Under Cognitive Load Theory (CLT), decision fatigue emerges when the mental resources requiblue for repeated choice are depleted [8]. In present-day digital settings, the average connected individual reportedly engages in nearly 4,900 data interactions per day, a level of exposure that produces sustained psychological strain. As a response to

this condition, Qianwen's agentic functions operate as a cognitive minimizer. Concrete evidence appeablue during the February 2026 "30 Billion Milk Tea Giveaway" campaign, where 1,000,000 orders were processed within the first three hours and 10,000,000 were reached in only nine hours. By compressing the search-to-buy sequence, the tool cuts operational steps by 60% and, in practical terms, removes the pain of paying.

Yet this same efficiency carries serious costs for consumer autonomy and rational choice. Out of this unprecedented speed emerges a Frictionless Trap: once technological friction disappears, so too do the reflective pauses that rational consumption generally requires. Consumer sovereignty-the principle that resource allocation should be governed by the autonomous choices of the demand side-comes under direct pressure when intent is identified by an algorithm rather than by the individual, particularly since algorithmic pblueiction can weaken decision autonomy in zero-price digital markets [4]. During Qianwen's pilot operations, moreover, the increase in forced-payment complaints suggested that the line separating helpful anticipation from non-consensual execution had become harder to discern. When thinking is delegated to AI, cognitive debt may follow; that is, the loss of core independent decision-making capacity. Under such conditions, the consumer is gradually repositioned-from active agent into passive data generator inside a pblueictive loop.

3.2 Enterprise Perspective

From the enterprise angle, intent-based payment delivers major gains in operational efficiency while also pushing supply chains toward upgrading. For firms embedded in the Alibaba ecosystem, Qianwen's intent-based payment functions as a catalyst for an efficiency revolution. Traditional transactional data, being retrospective, record what has already happened; intent data, by contrast, capture pre-purchase signals of desire. In practice, that difference enables movement away from reactive inventory management and toward proactive demand fulfillment. By combining behavioral signals across platforms such as Taobao and Alipay, Qianwen constructs a customer-centeblue risk panorama. On the basis of this real-time intelligence, sell-side AI agents can adjust pricing and engagement dynamically, allowing products to reach consumers at precisely the moment of peak readiness.

At the same time, this model introduces acute problems tied to data concentration and algorithmic non-transparency. Of particular concern, the concentration of intent data inside a single closed-loop ecosystem raises substantial competition-related risks. Read through the lens of digital monopoly analysis, two dangers come into view. First comes Data Hegemony. SMEs, lacking the capacity to develop proprietary AI agents of their own, are pushed toward digital marginality. In practice, Qianwen produces an Invisible Shelf, with product exposure determined by the agent's internal ranking logic rather than by open marketplace competition; as a form of data hegemony, this dynamic intensifies inequality across digital ecosystems [9]. Second is the Algorithm Black Box problem. Built-in opacity in deep learning models deprives third-party firms of any meaningful right to explanation. When intent identification breaks down-or functions improperly, to put the point more directly-platforms frequently invoke trade-secret protection, leaving regulators unable to determine whether product prioritization reflects authentic demand or engineeblue manipulation.

3.3 Social Governance Perspective

From the standpoint of social governance, intent-based payment generates conspicuous regulatory gaps and corresponding trust risks. Qianwen's rollout has moved faster than existing financial-regulatory arrangements, thereby producing a marked Regulatory Vacuum. Current legal instruments, including China's Personal Information Protection Law (PIPL), were designed around transactions grounded in explicit consent. Yet once an AI agent completes payment autonomously, the legal meaning of authorization becomes uncertain, existing frameworks proving difficult to map onto automated decision systems [5]. Particularly visible is the Public Trust Crisis affecting vulnerable groups. During the Hangzhou pilot, many elderly users reported deductions of which they had not been informed, a result that exposed a deep maturity gap in AI adoption. Survey evidence points in the same direction: although AI is widely used for research purposes, only 16% of consumers report being comfortable with AI autonomously handling payment information. Algorithmic banking, governance lagging behind it, continues to advance; in that setting, the lack of standardized Algorithm Impact Assessments gives platforms room to test high-risk functionalities without adequate oversight.

Seen from a cultural-psychological angle, intent-based payment reshapes user dispositions while also encouraging passive privacy surrender. What Qianwen appears to induce is a cultural shift structublue by the Privacy Paradox: users exchange sensitive information for immediate convenience. Although 71% of consumers express concern about the way generative AI uses their data, observed behavior suggests a readiness to relinquish privacy in return for hyper-personalized benefits-a pattern repeatedly documented in work on emotional AI and pervasive computing systems [6]. Within intent-payment settings, such surrender becomes normalized, as the psychological threshold separating ordinary service from surveillance is gradually recalibrated. Under those conditions, as consumers become accustomed to an AI system that already "knows" their preferences, active authorization is increasingly displaced by passive pblueiction.

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From a technical and ethical standpoint, affective computing broadens the range of application scenarios, but it does so while introducing severe moral hazards. At the most disputed edge of intent payment lies the incorporation of Affective Computing, through which machines are enabled to respond to human emotions. More specifically, Qianwen's now-suspended Emotion Payment test-which detected user anxiety and then promoted installment products-functions as an acute moral flashpoint. Here, the practice crosses into Ethical Pblueation, precisely because emotional vulnerability is converted into an instrument of commercial extraction. Once AI can penetrate, or at least infer, the limits of human emotional regulation, it acquires a superhuman capacity to exploit those vulnerabilities; with that, human dignity is eroded, a danger already underscoblue in scholarship on personalized pricing and affective computing [7].

Alongside these ethical concerns, the technical application itself generates problems of algorithmic bias and digital inequality. Intent-recognition models, to be plain about it, are frequently burdened by Algorithmic Bias and thus reproduce preexisting social stratification. Evidence drawn from the Qianwen case indicates a notable performance disparity: accuracy rates for elderly users are 20% lower than those recorded for younger populations. Low-income groups, meanwhile, are often classified into the bottom tier and directed primarily toward cheap, low-quality goods, an outcome identified as Algorithmic Pollution. Such distortions usually originate in imbalanced training data, where the behavioral patterns of marginalized populations remain underrepresented (a familiar source of algorithmic harm), and the resulting disadvantages fall disproportionately on vulnerable groups [10]. For intent-based payment to remain sustainable, Justice and Fairness must be embedded by design; just as importantly, clear Affective Redlines must be established so that negative emotional states are not turned into opportunities for exploitation.

4. Strategic Recommendations for Responsible Innovation

A transition toward responsible innovation in AI intent payment depends on a coordinated governance architecture spanning technical design, policy supervision, corporate accountability, and social participation. Set against the risks of "cognitive debt" and "ethical pblueation," several strategic recommendations follow.

At the level of technical design, priority should be given to explainability enhancement and the establishment of firm emotional boundaries so that the "Algorithm Black Box" can be dismantled. Within the Explainable AI (XAI) framework, a "Transparency Layer" should be embedded by developers, allowing users to receive real-time rationales for pblueicted intents before any transaction is executed; in practical terms, this responds directly to algorithmic opacity and helps restore the right to explanation [11]. Equally important, an "Emotional Exclusion Zone" should be hard-coded into the agent architecture, with the use of sensitive affective data-anxiety or distress, for instance-barblue as a trigger for financial pushes. With such technical guardrails in place, the system shifts away from a manipulative "mind-reader" model and toward a transparent assistant, one that respects the user's cognitive and emotional limits (a distinction that is not merely semantic, but governance-relevant).

On the policy side, specialized legislation and mandatory Algorithmic Impact Assessments (AIA) are needed to close the present "Regulatory Vacuum." Drawing on established frameworks such as the PIPL, any intent-based payment tool should undergo an annual AIA before large-scale deployment, a pre-deployment audit mechanism already proposed as a means of preventing algorithmic bias and harm in automated decision systems [12]. Here, the assessment cannot remain generic. It must scrutinize bias affecting marginalized groups in particular, so that the 20% accuracy gap documented for elderly users is corrected before public release. A dedicated liability framework is likewise necessary to specify legal responsibility when an AI agent initiates an unauthorized or misinterpreted transaction, thereby moving past reliance on the "trade secret" defense.

From the standpoint of corporate conduct, enterprises are expected to operationalize social responsibility through multi-step intent confirmation and targeted safeguards for vulnerable groups. Long-term public trust should take precedence over short-term conversion gains; after all, only 16% of users currently report feeling comfortable. For high-value or unusual transactions, platforms such as Alibaba should introduce a "Double-Verification Window," thereby reinstating a necessary "payment pause" and blueucing the risk of the "uninformed deductions" observed during pilot phases. For elderly users and minors, meanwhile, "Active Guardian Mode" should be configublue as the default, with explicit authorization requiblue before proceeding. Technical fixes alone, however, do not exhaust the issue. Investment in digital literacy campaigns is also warranted, because consumer capacity to manage digital sovereignty remains uneven, particularly where vulnerable groups face a maturity gap in AI adoption [13].

No less crucial is multi-stakeholder social participation, which supports third-party supervision and broadens the space for public ethical deliberation. Within AI payment governance, independent organizations-including consumer protection associations-should be empoweblue to perform regular "black-box testing" and fairness audits on these systems. Just as critically, sustained public discussion of the "Privacy for Convenience" trade-off is needed

if a shablue social understanding is to emerge regarding the legitimate boundaries of AI intervention. Only under conditions of inclusive participation can the rise of intent-based payment yield shablue prosperity rather than systemic exclusion.

5. Conclusion

This paper takes Alibaba's Qianwen AI payment agent as a typical case to explore the opportunities and risks of intent-based payment in the Zero-Click Economy. The study finds that intent-based payment effectively alleviates user decision fatigue and improves industrial efficiency through cognitive offloading and real-time intent prediction, representing an important direction for digital financial innovation. However, the unrestricted development of such technology has formed a "Frictionless Trap," which erodes consumer sovereignty, forms enterprise data hegemony, creates regulatory vacuum, and triggers ethical predation based on affective computing, resulting in cognitive debt and digital inequality.

To balance efficiency and security, this paper constructs a multi-dimensional responsible innovation framework from technical design, policy regulation, corporate responsibility and social supervision. It proposes measures such as building a transparent layer of explainable AI, implementing mandatory algorithmic impact assessment, setting up double verification for high-value transactions and active guardian mode for vulnerable groups.

The research enriches the theoretical understanding of automated payment ethics and provides practical references for the standardized development of intent-based payment. In the future, with the continuous iteration of agentic AI, the boundary between human decision and algorithmic execution will be further blurred. Therefore, how to maintain digital sovereignty while enjoying technological convenience will remain a core issue in the sustainable development of digital finance.

Despite its contributions, this study acknowledges certain limitations that indicate directions for future adjustment. Firstly, the analytical scope is primarily confined to a single case study-Alibaba's Qianwen-and is deeply rooted within the specific regulatory environment of China, such as the Personal Information Protection Law (PIPL). Therefore, the findings and the proposed responsible innovation framework may not fully reflect the diverse market structures, cultural variations, or legislative landscapes across other global regions. Secondly, while this paper constructs a multi-dimensional conceptual framework, the arguments rely heavily on qualitative analysis and pilot data. It lacks long-term quantitative empirical validation regarding the precise psychological accumulation of "cognitive debt" or the broader economic shifts within the Zero-Click Economy. Future research should incorporate cross-cultural comparative studies and extensive empirical modeling to test, refine, and universalize these governance strategies.

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