The Impact of Online Knowledge Platform Deficiencies on User Churn：Moderating Effects of Learning Motivation

Chaoyang LIU　　Jin ZHU

School of Business, University of Jinan，China

Abstract: Despite the widespread accessibility of learning resources facilitated by the rapid expansion of online education platforms, user churn remains a critical challenge to their sustainable growth. Integrating the Technology Acceptance Model (TAM) and Self-Determination Theory, this study develops a model to investigate how platform deficiencies—categorized as usability defects and usefulness defects—drive user churn. Through two experimental studies, our findings reveal a core mechanism: platform deficiencies significantly and positively affect user churn, and user disgust plays a role of partial mediationin this relationship. Critically, the study identifies important boundary conditions: users with extrinsic motivation are more sensitive to usefulness defects, whereas those with intrinsic motivation are more sensitive to usability defects. This research makes a novel contribution by integrating disgust into the user churn model, thereby clarifying the psychological pathway through which platform flaws translate into behavioral outcomes. The results offer nuanced theoretical contributions and precise practical guidance for platform administrators to strategically enhance user experience and mitigate churn.

Keywords: platform deficiency; user churn; user disgust; learning motivation

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1.Introduction

With the rapid development of internet technology, the user base of online education platforms has experienced significant growth. According to Statista (2023), the global number of users on online learning platforms exceeded 1 billion and is projected to reach 1.121 billion by 2029. The emergence of Massive Open Online Courses (MOOCs), micro-learning platforms, and knowledge-sharing communities has fundamentally transformed access to educational resources (Rulinawaty et al., 2015)[1]. These platforms encompass diverse offerings—from degree-oriented providers such as Harvard Business Online and eCornell to language learning platforms, online tutoring services, and bootcamps, as well as professional certification programs including CPA, CFA, and BARBRI—delivering flexible, scalable, and diverse learning opportunities for students, professionals, and lifelong learners (Smirnova, 2019)[2]. As essential tools for knowledge sharing and acquisition in the digital economy, they have been widely adopted across domains such as education and training, career development, and personal growth.

Despite this market expansion, user churn remains a critical threat to platform sustainability. Challenges such as high dropout rates and limited user engagement are prominent (Onah et al., 2014)[3]. For example, Wang et al. (2023) reported dropout rates exceeding 90% in some MOOCs, highlighting critical issues related to user satisfaction, perceived value, and platform usability[4]. While existing research has extensively explored positive factors that enhance engagement (e.g., content quality, personalization, Chen, 2020)[5], platform deficiencies—a critical negative factor—and their exact direct and indirect mechanisms affecting churn still require in-depth clarification. Merely "boosting satisfaction" often fails to explain abrupt user exits. Wu (2023) suggests that platform defects evoking the sudden "yuck" of user disgust act as an emotional switch, spiking exit intention and turning minor glitches into major churn[6].

This emotional dynamic highlights two major theoretical gaps in the literature. First, prior studies primarily leverage the Technology Acceptance Model (TAM)'s focus on the positive effects of usability and usefulness, rarely examining platform deficiencies as negative drivers on user emotion and behavior. Second, while churn research involves various negative emotions, the discrete emotion of disgust, which possesses a strong behavioral expulsion tendency, has not been systematically integrated into models to explain user abandonment. This omission of the cognitive-emotional pathway hinders a comprehensive understanding of how platform flaws translate into behavioral outcomes.

Accordingly, this study aims to systematically investigate the underlying mechanism of user churn by focusing on two core objectives: (1) To determine how platform deficiencies (usability vs. usefulness) drive churn and to establish the mediating role of user disgust; and (2) To identify whether different learning motivations (intrinsic vs. extrinsic) create differential sensitivities to these distinct types of platform deficiencies. Grounded in TAM and Self-Determination Theory, this paper constructs an integrated model using five key variables (platform deficiencies, disgust, user churn, and learning motivation) to provide systematic guidance for theory and practice. To ensure robust causal inference, this study employs controlled scenario-based experiments, recruiting participants via the Credamo platform and conducting quantitative analyses.

2.Research Hypotheses

2.1 The Mechanism of the Impact of Platform Deficiencies on User Churn

2.1.1 Definition and Classification of Platform Deficiencies

Defect" describes errors, flaws, or functional failures occurring during product development or operation (Henderson, 1997)[7]. Drawing on Henderson's general definition of product defects and considering the interactive and service-oriented characteristics of online education platforms, this paper defines "online education platform deficiencies" as inadequacies or errors in the platform's functionality, performance, content, or interaction.

Based on survey data from online learning users, Mohammadi (2023) emphasized that deficiencies in "system quality" (e.g., technical reliability, response speed) and "information quality" are key factors affecting users' continuance intention[8]. This study argues that, from the perspective of user perception, and by reversing the core dimensions of the Technology Acceptance Model (TAM) theory (Davis, 1989) [9]to align with service failure logic, classifying platform deficiencies into usability defects and usefulness deficiencies provides a more explanatory framework.

Usability defects refer to operational obstacles, unfriendly interfaces, poor interaction fluency, and other issues encountered by users during platform usage;usefulness deficiencies refer to the platform's failure to meet user needs in terms of content quality, quantity, relevance, and update speed.

2.1.2 The Concept and Application of user churn

User churn is a core concept in the fields of service marketing and customer relationship management. Initially, Keaveney and Parthasarathy (2001)[10] defined user churn as the cessation of using a particular service, which includes both complete withdrawal from the service market and switching from one service provider to another. Building on this classical definition and considering the characteristics of online education platforms, this paper defines "user churn" as follows: the behavior exhibited by users of online education platforms—such as reducing usage frequency, completely discontinuing use of the current platform, or switching to competing platforms—due to dissatisfaction with the platform, poor experiences, or the availability of more attractive alternatives. In the context of this study, we particularly focus on user churn caused by the platform's own deficiencies.

User churn not only directly reduces the platform's user base but also leads to a series of negative consequences, such as decreased platform revenue and profitability, damage to the platform's reputation and word-of-mouth, increased costs for acquiring new users, and impacts on the platform's long-term sustainable development (Hassan et al., 2020)[11]. Therefore, identifying and managing the risk of user churn is critical for online education platforms. We argue that platform deficiencies, as a significant form of service failure, may negatively impact users' learning experiences and value acquisition, thereby reducing their intention to continue using the platform.

Given these serious consequences of user churn, and considering existing research indicating that service quality and user experience are key factors affecting user retention (Azhar et al., 2024)[12], we believe it is necessary to delve into one of the root causes of poor user experience: the platform's inherent deficiencies. These

deficiencies, such as operational inconveniences and insufficient content, directly affect users' learning experiences and the value they derive from the platform, thus diminishing their willingness to continue using it. Based on this, the study proposes the following hypothesis:

H1: Deficiencies in online education platforms positively influence user churn.

2.1.3 The Mediating Role of User Disgust

Disgust, as a core negative emotion, has received extensive attention in the field of psychology. Disgust, as a core negative emotion, has received extensive attention in the field of psychology. It is characterized by a strong tendency towards rejection and behavioral avoidance of the perceived source of contamination or violation (Rozin et al., 1994; Kirk, 2025)[13,14]. In the context of service failure, platform deficiencies act as a source of symbolic contamination, triggering disgust and a desire to expel the service.

In the field of service marketing, negative emotions (including disgust) are considered important factors affecting customer satisfaction and loyalty (Oliver, 1997)[15]. Ting (2025)[16]emphasized that negative emotions not only directly affect users' current satisfaction but may also indirectly contribute to user churn through negative word-of-mouth and reduced continuance intention. Therefore, we can infer that various deficiencies in online education platforms are likely to be perceived by users as service failures, thereby triggering their disgust. Specifically, usability issues(e.g., technical failures, poor interface design) cause operational difficulties and time wastage, leading to intense frustration that directly escalates into an expulsive feeling of disgust. Conversely, usefulness issues (e.g., low content quality, inaccurate information) may make users feel deceived or misled(Gigerenzer, 2015)[17], damaging their perceived value of the platform and generating strong symbolic disgustagainst the perceived violation of service quality. Both pathways translate the perception of failure into the emotional catalyst for avoidance.. Based on this, we propose the following research hypothesis:

H2: User disgust mediates the relationship between platform deficiencies and user churn.

2.2 The Moderating Role of Learning Motivation

2.2.1 The Concept and Classification of Learning Motivation

Learning motivation refers to the internal or external forces that stimulate individuals to initiate and sustain learning behavior(Williams,1993)[18]. It acts as a "catalyst" by influencing cognitive interaction processes through focused attention,increased effort,and higher levels of engagement . Based on this,this study defines learning motivation as the factor that triggers and sustains students' learning behavior,guiding them toward their goals. According to Self-Determination Theory,learning motivation exists on a continuum ranging from external to internal regulation (Urhahne,2011)[19]. To simplify the analysis and focus on the core differences in driving forces, this study primarily differentiates between Intrinsic Motivation and Extrinsic Motivation as the two types of learning motivation.

2.2.2 The Moderating Effect of Intrinsic Motivation

For users primarily driven by intrinsic interest, the learning process itself serves as the reward (process-oriented view, Soh, 2022)[20]. Therefore, any factors that interfere with the smoothness and autonomy of this process are likely to provoke strong dissatisfaction and disgust.When a platform suffers from usability deficiencies (e.g., complicated operations, unstable performance), the intrinsically motivated user's experience is directly disrupted. Since their core satisfaction stems from the flow state of learning, these flaws represent a high 'process interruption cost' (Badali, 2022)[21]. This direct blockage of their autonomy and enjoyment causes extreme frustration, leading to strong disgust and a perception that the platform fundamentally failed their needs for pleasurable learning（Amigud，2025）[22].

While intrinsically motivated users also value the quality of learning content,their core drive remains the inherent satisfaction that learning provides. When a platform exhibits usefulness deficiencies (e.g.,superficial content,incomplete information),they may feel disappointed or perceive the platform's learning value as limited（Pan，2024）[23].

However, the disappointment from usefulness deficiencies (e.g., superficial content) may not be as intense as the disgust triggered by direct operational obstacles. Due to their high intrinsic drive, these users are more likely to employ cognitive reappraisal or seek external compensation to mitigate the content flaws, allowing them to focus on the inherent satisfaction of the learning process itself and thus exhibiting greater tolerance for usefulness deficiencies.Based on the above discussion,we propose the following hypothesis:

H3a: For users with high intrinsic motivation,usability deficiencies are more likely to trigger stronger disgust than usefulness deficiencies.

2.2.3 The Moderating Effect of Extrinsic Motivation

For users whose primary drive is to gain external rewards or avoid punishment, learning is highly instrumental (Dayan, 2002)[24] , serving as a tool to achieve specific, outcome-oriented goals. Consequently, they prioritize efficiency and the tangible results of their learning endeavors.

When a platform experiences usefulness deficiencies (e.g., inaccurate content, misalignment with required skills), their path to achieving utilitarian objectives is directly threatened. This goal blockage is perceived as a significant value loss (Abujaber, 2023)[25] . The perceived waste of invested time and effort (sunk cost) triggers intense feelings of injustice and disappointment, which quickly escalate into the expulsive emotion of disgust, as the platform fundamentally failed to deliver the promised return on investment.

Conversely, extrinsically motivated users tend to exhibit greater tolerance for usability deficiencies that do not severely impair their ultimate goal attainment. As long as the platform's core utility enables them to successfully acquire necessary knowledge, minor operational inconveniences are deemed acceptable efficiency trade-offs. However, this tolerance breaks down only when usability deficiencies become critical enough to significantly compromise task completion efficiency (e.g., frequent system crashes leading to critical delays), at which point dissatisfaction and disgust may be elicited. Based on this, we propose the following hypothesis:

H3b: For users with high extrinsic motivation,usefulness deficiencies are more likely to trigger stronger disgust than usability deficiencies.

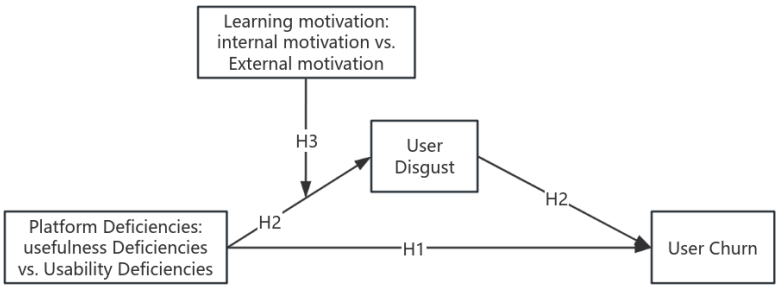

Figure 1. Research model

3. Experimental design

3.1 Experiment 1: Investigating the mechanism of user churn induced by platform deficiencies

The purpose of Experiment 1 in this study is to verify the impact of platform defects on user churn and the mediating role of aversion.For Experiment ,a total of 146 participants were randomly recruited from the Credamo online data collection platform. The demographic characteristics of the sample were distributed as follows: 52.1% male and 47.9% female. Age demographics included 6.8% under 18 years,33.6% between 19-23,33.5% between 24-30,22.7% between 31-40,and 3.4% over 41. Educational attainment comprised 42.5% with a high school degree or lower,48.6% with a junior college or bachelor's degree,6.2% with a master's degree,and 2.7% with a doctoral degree. Regarding monthly disposable income,11.6% reported below 1,200 RMB,29.5% between 1,200-2,000 RMB,36.3% between 2,001-5,000 RMB,and 22.6% above 5,001 RMB.

The experimental questionnaire was structured into five distinct sections. In the first section,participants were randomly assigned to one of three experimental conditions: a usability deficiency group,a usefulness deficiency group,or a no-deficiency control group. Each group received a text-based scenario designed to manipulate the specific type of platform deficiency.Participants in the usability deficiency group were asked to imagine learning on an education platform where,during online course video playback,they frequently experienced delays,prolonged buffering,and even video loading failures,compelling them to repeatedly attempt to restart or utilize alternative network environments,thus significantly disrupting the continuity of their learning. Conversely,participants in the usefulness deficiency group imagined studying on an educational platform where they found the selection of courses limited,with many options not aligning with their specific learning needs or interests.

Furthermore,after choosing a course,they discovered that the instructor was either omitting key sections or incorrectly explaining crucial points. A manipulation check for these two experimental groups was conducted using items such as "I perceive the type of deficiency described to be primarily a usability deficiency" and "I perceive the type of deficiency described to be primarily a usefulness deficiency."

For the no-deficiency control group,participants were presented with a scenario where the platform's functionalities and content generally met their learning needs,the content provided covered the main knowledge points comprehensively with clear explanations and a logical structure,proving sufficiently practical for their current learning objectives. The third section incorporated a scale measuring disgust,adapted from Watson et al. (1998),with items such as "I find this online learning platform repulsive." The fourth section assessed user churn,adapted from Xu Xiaojuan et al. (2017),including items like "I intend to discontinue using this online learning platform" and "I plan to directly uninstall this online learning platform." The final section collected demographic data. Statistical analyses for Experiment 1 involved independent samples t-tests to confirm the distinct perception between the two deficiency groups, and one-way ANOVA to test the overall main effect by comparing deficiency groups against the control group. The PROCESS macro (Model 7) in SPSS was utilized for mediating effect analysis,as Model 7 assumes a moderated mediation where the latter half of the mediation path is moderated,aligning with the theoretical model of this study.

3.2 Experiment 2: Examining the Moderating Role of Learning Motivation

Experiment 2 is to verify the moderating effect of learning motivation.Our experiment involved 216 participants,recruited randomly from the Credamo data platform. The demographic characteristics were as follows: 44.0% male and 56.0% female. Age distribution: 10.6% under 18,25.9% between 19-23,28.2% between 24-30,21.8% between 31-40,and 13.4% over 41. Education: 34.3% high school or lower,59.3% junior college or bachelor's degree,3.7% master's degree,and 2.8% doctoral degree. Monthly disposable income: 34.3% below 1,200 RMB,27.8% between 1,200-2,000 RMB,21.8% between 2,001-5,000 RMB,and 16.2% above 5,001 RMB.

The questionnaire was structured into four sections. In the first section, participants were assigned to one of two primary motivation groups (intrinsic motivation or extrinsic motivation) where learning motivation was experimentally stimulated via text scenarios. For the intrinsic motivation stimulus,participants imagined being interested in guitar and wanting to learn music composition and production skills on an online learning platform,with expectations not high,purely out of passion and inherent interest in music,primarily for personal enjoyment. For the extrinsic motivation stimulus,participants imagined learning guitar music composition and production skills on an online learning platform primarily to obtain an external reward,such as a professional certificate or to enhance their career prospects. Following these initial motivation stimuli, a manipulation check for learning motivation was immediately administered using a 7-point Likert scale (1 = strongly disagree,7 = strongly agree),with items such as "I believe my learning motivation in this scenario is primarily extrinsic" and "I believe my learning motivation in this scenario is primarily intrinsic." Only after the motivation check did participants proceed. For the intrinsic motivation - usability deficiency group,stimulus materials included terms explicitly referencing "loading failure," "video delay," and "login issues." For the intrinsic motivation - usefulness deficiency group,stimulus materials included phrases like "content is limited" and "course is not updated." Corresponding terms were also employed in the stimulus materials for usability and usefulness

deficiencies within the extrinsic motivation groups. A second manipulation check for platform deficiencies was then administered using a 7-point Likert scale (1 = strongly disagree,7 = strongly agree),with questions such as "I believe the type of deficiency described is biased towards a usability deficiency" and "I believe the type of deficiency described is biased towards a usefulness deficiency."

In this study, we employed SPSS's independent samples t-test for hypothesis testing, conducted one-way ANOVA to examine main effects, and utilized Model 7 in the PROCESS software plugin (which accounts for moderated mediation in the latter half of the hypothesized mediation model, consistent with our theoretical framework). Finally, a two-way ANOVA was employed to assess the moderating role of learning motivation.

4. Results Analysis

4.1 Experiment 1 Data Analysis

The manipulation check for platform deficiencies confirmed successful experimental control. Compared to participants in the usefulness deficiency group,those in the usability deficiency group reported that the scenario's deficiency was significantly more inclined towards usability (M usability defect =5.70,SD=1.19; M usefulness defect =2.34,SD=1.06; t=21.95 (214),p <0.001);. Conversely,participants in the usefulness deficiency group perceived the scenario's deficiency as significantly more inclined towards usefulness compared to the usability deficiency group (M usefulness defect =5.73,SD=0.95; M Usability defect =5.73,SD=1.19; t=-23.23 (214),p < 0.001).These results collectively affirm the efficacy of the platform deficiency manipulation.

Using the defect free group as the control group and the usability defect group as the experimental group for independent sample t-test, (M usability defect=4.80, SD=1.30； M without defects=1.61, SD=0.29； t=17.56，p＜0.01）； The usefulness defect group was used as the experimental group (M usefulness defect=4.62, SD=1.37； M without defects=1.61, SD=0.29； t=17.56，p＜0.01），Both usability and usefulness defects are significant, indicating that they can cause user churn, as evidenced by H1. Meanwhile, independent sample t-tests were conducted with usability defects as the control group, usefulness defects as the experimental group, and user churn as the dependent variable. The results were not significant (M usability defects=4.80, SD=1.30； M usefulness defect=4.62, SD=1.37； t=0.66，p=0.53），There is no difference between the two groups, and there is no difference in user churn caused by usability defects and usefulness defects.

Prior to testing the mediation effect,variables were appropriately processed. The no-deficiency group served as the control,while the usability deficiency and usefulness deficiency groups constituted the experimental conditions. Utilizing the PROCESS macro (Model 4) in SPSS with a bootstrap sample size of 5000,we examined the mediating role of disgust between platform deficiencies and user churn. As detailed in Table 2,the results revealed a significant indirect effect. Specifically,the positive impact of usability deficiencies (versus no deficiency) on user churn was significantly mediated by disgust (BootLLCI = 1.01,BootULCI = 2.16),as the 95% bias-corrected confidence interval did not encompass zero. Concurrently,the direct effect of usability deficiencies on user churn was also

significant (BootLLCI = 1.00,BootULCI= 2.25),with its confidence interval similarly excluding zero. Likewise,the positive effect of usefulness deficiencies (versus no deficiency) on user churn was significantly mediated by disgust (BootLLCI = 1.12,BootULCI = 2.41),indicating a significant indirect effect. The direct effect of usefulness deficiencies on user churn was also significant (BootLLCI = 1.00,BootULCI = 2.25).

Therefore,H2 are fully supported,demonstrating that platform deficiencies positively influence users' disgust,which,in turn,increases user churn,and that users' disgust significantly mediates this relationship.

Table 1. Spss mediation effect test data

		Effect	BootSE	BootLLCI	BootULCI
Usability Deficencies vs No Deficency	Indirect Effect	1.57	0.3	1.01	2.16
	Direct Effect	1.62	0.32	1	2.25
	Total Effect	3.19	0.22	2.76	3.62
Usefulness Deficencies vs No Deficency	Indirect Effect	1.73	0.33	1.12	2.41
	Direct Effect	1.28	0.33	0.62	1.94
	Total Effect	3.01	0.21	2.59	3.43

4.2 Experiment 2 Data Analysis

Manipulation checks for both platform deficiencies and learning motivation were conducted using independent samples t-tests in SPSS. The learning motivation manipulation was successful. Compared to participants in the intrinsic motivation group,those in the extrinsic motivation group perceived their learning motivation to be significantly more extrinsic (M internal motivation =2.32,SD=1.23; M external motivation =5.64,SD=1.33; t=-19.03 (214),$p < 0.001$). Conversely,the intrinsic motivation group perceived their motivation as significantly more intrinsic compared to the extrinsic motivation group (M internal motivation =5.50,SD=1.31; M external motivation =2.48,SD=1.40; t=16.39 (214),$p < 0.001$). Furthermore,the manipulation of platform deficiencies also proved successful,replicating findings from Experiment 1. Participants in the usability deficiency group considered the scenario's deficiency significantly more aligned with usability(M usability defect =5.70,SD=1.19; M usefulness defect =2.34,SD=1.06; t=21.95 (214),$p < 0.001$). Similarly,the usefulness deficiency group perceived the scenario's deficiency as significantly more useful (M usefulness defect =5.73,SD=0.95; M Usability defect =5.73,SD=1.19; t=-23.23 (214),$p < 0.001$).

A two-way analysis of variance (ANOVA) was performed with platform deficiencies and learning motivation as independent variables and disgust as the dependent variable. The results of the two-factor ANOVA revealed a significant interaction effect between platform deficiencies and learning motivation on user disgust (F (1,216) =2045.49,$p < 0.001$). Further,simple effect analysis demonstrated that for intrinsically motivated participants,usability deficiencies(M usability defects =6.55,SD=0.41) led to significantly greater user disgust than usefulness deficiencies (M usability defects =4.49,SD=0.40). In contrast,for extrinsically motivated

participants,usefulness deficiencies (M usability defects =4.62,SD=0.41) resulted in significantly greater user disgust than usability deficiencies(M usability defects =6.28,SD=0.42)These results are visually represented in Figure 2 and detailed in Table2. Additionally,an analysis of covariance confirmed that platform deficiencies and learning motivation continue to exert a significant interactive effect on user churn,further substantiating the robustness of these findings. Therefore,Hypotheses H3a and H3b are supported.

Table 2. Two-way ANOVA test data

Platform Defi-cencies	Motivation to learn		Statistical testing
	Intrinsic motiva-tion	External motiva-tion	
Usability Defi-cencies	6.55(0.41)	4.62(0.41)	F(1,216)=1568.65,p ＜ 0.001
Usefulness Defi-cencies	4.49(0.40)	6.28(0.42)	F(1,216)=1745.69,p ＜ 0.001

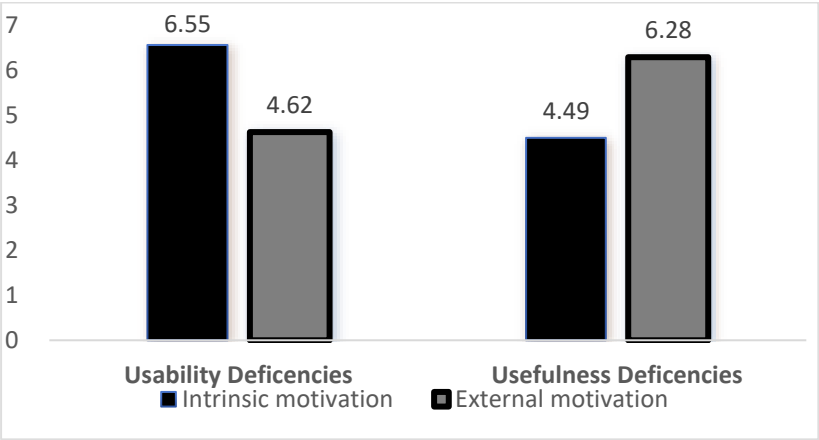

Figure 2.ANOVA data bar chart

5. Conclusion and contibutions

5.1Conclusion

This study centers on the core question of how deficiencies in online knowledge platforms drive user churn. Using two scenario-based experiments, we systematically examined the interplay among platform defects, user disgust, and learning motivation. The results show that platform defects are indeed a major cause of attrition: whether usability flaws such as laggy operations and login failures, or usefulness shortcomings like shallow content and delayed updates, both significantly increase users' intention to abandon the platform. Mediation tests further reveal that defects first elicit disgust; this negative emotion then translates into uninstalling, discontinuing use, or switching to competing platforms, confirming that "disgust" acts as a key mediator between platform defects and churn. More importantly, the type of learning motivation moderates which defect is felt most keenly: intrinsically motivated users, who value a smooth and enjoyable learning process,

react more strongly to usability defects, whereas extrinsically motivated users, focused on achieving practical goals, display significantly greater disgust toward usefulness defects.

Therefore, to curb User Churn effectively, online knowledge platforms must move beyond generalized improvements and adopt a segmented, motivation-based retention strategy. Our findings necessitate a two-pronged approach: the foundational need to continuously upgrade technical performance and content quality must be coupled with tailored intervention design. Specifically, platforms should prioritize minimizing the specific defects that trigger Disgust, thereby disrupting the cognitive-emotional pathway to abandonment and ultimately strengthening user stickiness.

Practically, this demands a shift toward personalized deficiency management. For Intrinsically Motivated Users: Since these users are primarily seeking flow state and enjoyment, platforms must invest heavily in Usability Optimization. This includes predictive maintenance to eliminate lag and buffering, streamlining UI/UX to maximize autonomy, and providing robust technical support to instantly resolve login issues. These users view any operational friction as a direct assault on the pleasure of learning.For Extrinsically Motivated Users: As their focus is on return on investment (ROI) and achieving tangible outcomes (e.g., certification, career advancement), platforms must prioritize Usefulness Integrity. This means stringent quality control over curriculum accuracy, ensuring content relevance to stated career goals, and timely updates that align with industry or exam standards. For this segment, shallow or flawed content is not merely disappointing; it is a perceived service violation that threatens their utilitarian success.

By leveraging the psychological boundary condition of learning motivation, platforms can strategically deploy resources to minimize the specific emotional trigger (Disgust) in the most at-risk segments, leading to a more efficient reduction in churn and a more robust, healthy platform ecosystem.

5.2 Contibutions

The theoretical contributions of this study are threefold. First, this study extends the Technology Acceptance Model (TAM) by employing a negative reversal of its core constructs, thereby furnishing a novel explanatory pathway for continuance research in the online-learning context. This shifts the focus from positive adoption factors to the critical drivers of service abandonment. Second, we illuminate the critical psychological mechanism of user attrition by verifying the pivotal mediating role of "user disgust." This specifically addresses the gap left by prior literature's over-reliance on positive constructs like satisfaction and trust. Third, this research operationalizes the Self-Determination Theory's motivational continuum by establishing learning motivation as a critical boundary condition. This not only deepens the understanding of individual differences in the emotion-to-behavior chain but also offers a replicable framework for studying personality or contextual variables in digital settings.

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