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ENHANCING CUSTOMER TRUST AND RETENTION THROUGH E-APPS MARKETING IN BANKS: EVIDENCE FROM A DEVELOPING COUNTRY

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ABSTRACT

This research aims to examine the relationship between banking apps and their influence on customer trust and retention. Given the increasing reliance on digital platforms, the study understands how mobile apps influence customer behavior for the long-term growth of these institutions. Data was gathered from a sample of 400 clients through a survey and analyzed using SPSS 26 and structural equation modeling (SEM) with AMOS 25 to draw conclusive suggestions. The findings indicate that several important qualities of a website, including customer interaction, aesthetics, ease of use, personalization, and trust, favorably impact customer retention. The study will provide insight into the specific challenges faced by Islamic banks in aligning mobile app features while maintaining usability and security standards. It represents the initial attempt to investigate the impact of fundamental website characteristics on customer engagement. It is a completely novel insight for bank marketers, using empirical evidence to foster loyalty in Bangladesh.

Keywords: Customer Trust, Banks, Bangladesh, E-apps, Loyalty.

JEL: M1,M3,H37

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INTRODUCTION

Mobile apps provide a platform that enables customers to engage in real-time interactions with the bank. After the COVID-19 pandemic, the global financial crisis has eroded customer confidence and loyalty, posing a threat to long-term relationships. Thus, the advent of the digital age has resulted in a complete level of transparency among consumers. Bangladesh is now at an early stage of implementing cloud-based technologies in the banking sector. Unfortunately, the country's customers are not yet familiar with these services. Many banks attempt to entice customers by providing complex products and services accompanied by expensive promotions. Occasionally, the promotional messages for these products tempt customers to engage in risky or unsound banking practices. However, nudge banking apps, a novel approach to banking, greatly assist consumers in attaining their long-term financial objectives through the use of gentle hints. In HSBC of the UK, the apps offer 38 categories of concise messages that users can get on their mobile devices. These messages provide information such as the most common day of the week for grocery expenses or the typical spending patterns of individuals in the same age group and salary range. Users may see that they are spending more money at restaurants compared to their peers and that they can save money by cooking at home more frequently.

As of December 2022, there were a total of 61 scheduled commercial banks in Bangladesh of which ten are Islamic banks. In addition, 23 Islamic banking branches supported 11 conventional banks, and an additional 14 conventional banks operated through 535 Islamic banking windows, all actively providing Islamic banking services. By the end of December 2022, there had been a deceleration in the growth of aggregate investments, deposits, shareholders' equity, and assets within Islamic In particular, the rate of increase in aggregate deposits amounted to a mere 2.9 percent in 2022, a significant decline from the 20.1 percent growth over As a result, Islamic banks' market share decreased to total deposits and shareholders' equity between 2021 and 2022. (Business Haunt, 2019) Islamic banks are still not reliable in providing access to information of loan and promptly resolving issues using their cost-effective cloud services. The investigation into the factors contributing to the capacity of bank mobile apps to engage clients effectively has not been extensively studied, revealing a notable deficiency in academic research.

This study will fill the research gap by providing a comprehensive analysis of how to effectively capture customer engagement (CE) to enhance customer trust and retention. In this study, we focused on discerning the distinct attributes of mobile apps that have been consistently referenced in the existing body of research. Scholars have identified traits such as aesthetics, website interactivity, & ease of use as crucial elements that can enhance customer satisfaction & foster positive attitudes towards frequent use options (Naeem, 2020; Elhajjar and Ouaida, 2020). Furthermore, there has been a lack of actual testing about the connections between the aforementioned elements of bank mobile apps, customer engagement (CE), trust, & customer retention. This study contends that the chosen properties of a website include both relational & communicative significance. The strategic problems of banks can be effectively addressed by emphasizing the relational dynamics of customer experience, which can aid Islamic banks in cultivating reliance & retaining their most precious stakeholders, namely the customers.

LITERATURE REVIEW

Oliver came up with the expectation-confirmation theory in 1980, which is expanded in this study to evaluate consumer engagement. Additionally, the idea makes an effort to rationalize the use of Islamic financial services by consumers. The Islamic banking literature has developed multiple models to understand the psychological behavior of customers toward Islamic banking products and services. Moreover, the “technological acceptance model”, the “theory of planned behavior” & the SOR theory were widely used in influencing customer adoption of online banking. This study employs the confirmation or disconfirmation theory to investigate what elements (such as ease of use, benefits, & interactivity) influence customers' impressions of Islamic banking services.

Interactivity

Islamic banking mobile apps are anticipated to fulfill a similar role to that of physical banks for most of the clients (Utami, et al.,2022; Ko, et al., 2005). Consequently, the enhancement of Islami Bank website interactivity is seen as essential for banks in order to improve their overall performance with their mobile apps (Andriani, et al., Shibghatalloh,2021; Rasli et al., 2022). Islamic banks rely on customer involvement and interactive websites to attract and retain customers (Islam and Rahman, 2017; Khan et al., 2023), but there has been little research on how interactivity affects customer engagement. Multiple studies have investigated the level of involvement in online environments, According to Cahaya, et al. (2023), Involvement and intimacy mediate trust and customer loyalty in Jakarta. According to the research (Putri, 2022 and Alzaydi, 2023), trust is positively impacted by involvement, intimacy, and loyalty. In the Saudi banking business, customer loyalty is achieved through branding rather than website participation. Moreover, researchers found an industrial revolution in Bank 4.0 experienced a serial mediating role of customer trust and engagement (Hussein, et al.,2023; Bapat and Khandelwal, 2023). The study hypothesized as H1: Interactivity correlates positively with consumer trust.

Aesthetics

Website aesthetics refers to an individual's perception of the visual appeal (such as fonts, colors, photos, shapes, animation, and music) that might potentially impact users' perception of a website in a favorable manner. Hence, corporations depend on the visual presentation of their mobile apps to effectively engage potential customers and facilitate communication with them (Andriani, et al., 2021). In the realm of banking, in addition to prioritizing system security, banking mobile apps that exhibit a high degree of visual appeal contribute to a favorable opinion of usability among visitors. According to Rasli et al. (2022), having an aesthetically pleasing website is essential for attracting customers and improving their overall experience and engagement. Similarly, according to Verma and Kaur(2023), customer experience has a relationship with bank image and trust, thereby they validated Schmitt's customer experience

dimensions in multichannel banking. Some researchers found it as self-service technologies (SSTs) controlled by customers (Galdolage and Rasanjalee, 2022; Chaouali et al.,2019). It was hypothesized as

H2: Aesthetics correlates positively with Customer trust;

Ease of use

To address the increasing impact of fast technological breakthroughs, the banking industry is currently integrating innovative IT with user-friendly features. According to Rose et al. (2012), there is a significant correlation between the user-friendliness of a website and the behavioral responses of consumers towards that website. Although previous research has demonstrated the influential role of ease of use in shaping consumers' acceptance of new technology (Gefen et al., 2003; Ghani and Dahlan, 2021), it is noteworthy that there is a scarcity of studies investigating the specific impact of ease of use on promoting consumer engagement. Prior studies have shown that user-friendliness greatly influences client involvement within the banking sector (Alfani, et al., 2023; Ugwuanyi, and Idoko, 2022).The hypothesis was made as

H3: Ease of use positively correlates with Customer trust;

Personalization

A personalized app offers evidence that is specifically suited to the user. Personalization is a firm's promise to deliver services that are tailored to the needs of its customers. This variable can be examined by identifying client preferences and attracting customers to services (Ball et al., 2006). Wessel and Thies (2015) state that a single approach to make products and services more valuable to people is to provide personalization options. With the use of personalized online financial planning tools, customers may efficiently handle their finances (Nso, 2018). The degree of client satisfaction can be assessed through the use of personalized mobile banking application services (Albashrawi and Motiwalla, 2015). According to research on banking apps for mobile devices, customers are more likely to trust a bank that offers personalized services. The efficacy of numerous website models has been predominantly attributed to the incorporation of personalization functionalities, as repurchase intent signifies customer contentment (Zalloum, et al., 2019; Mehrotra,et al.,2021). Finally, the hypothesis was made as

H4: Personalization correlates positively with Customer trust;

Customer trust (CT) and Retention Intent

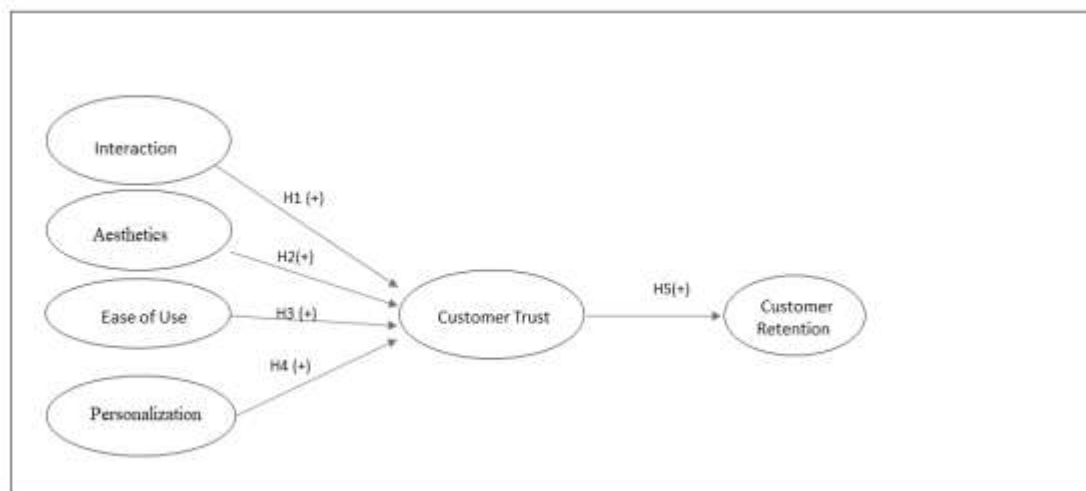
Customer Trust (CT) is a sentiment of assurance experienced by consumers during their engagement with a brand of product or service. To increase customer trust, Relationship marketing (RM) indicates that service marketers should focus on fostering frequent and good customer contacts and engagement, rather than solely focusing on increasing the customer's spending (Mehrotra, 2021; Islam and Rahman, 2017). Retaining consumers has a cheaper cost per unit than acquiring new ones (Wang et al., 2019). Moreover, businesses can foster emotional

attachment and trust among their customers by offering pleasant and interesting interactions (Skvarciany and Jurevičienė, 2018) thereby, it creates intention to continue using the application (Sthapit, et al.,2020; Birkmeyer,et al.,2021). Trust and acceptance of mobile apps affect customer relationship management performance (Chowdhury, et al., 2023; Pambudi,et al., 2021; Rahman, et. al.,2020, Zalloum, et al., 2019; Zhao,et al.,2016). Formulation of the hypothesis is

H5: Customer trust correlates positively with customer retention.

2.4 Theoretical Framework

Figure 1: Proposed Framework



METHODS

Sample and data collection

Data was acquired from online banking users of ten Islamic banks in Bangladesh using a Google form questionnaire poll. The researchers established communication with 16 senior officers and managers from Chattogram and Dhaka, Bangladesh, by leveraging personal communication and the university alumni network. Respondents belonged to millennials (born in 1990) who differ from gender, occupation, and monthly income and were using a minimum of six months's active bank account. Among the 442 replies collected, a total of 42 were deemed incomplete and hence eliminated from subsequent analysis. As a result, a total of 400 surveys that met the criteria for usability were deemed suitable for subsequent study.

Measures

The questionnaire was composed of two components; firstly, inquiries that were designed to collect data regarding the demographic characteristics of the participants. The measurement of items was adapted from the previous study (McLean 2018; Mahmoud, 2019). All responses were gathered using a "7-point Likert scale," ranging from 1 denoting "strongly disagree" to 7 representing "strongly agree." The content validity of the questionnaire was assessed by a pre-test conducted with an expert panel. This panel consisted of two professors of the University of Chittagong as well as two bank managers. Necessary adjustments were made to the pertinent scales to assure their suitability within the setting of our investigation. The application of structural modeling (SEM) is undertaken to empirically examine and evaluate the proposed hypotheses. The statistical tool known as structural equation modeling (SEM) is widely utilized in academic research to investigate causal models. The procedure involves the estimation of both the measurement and structural models utilizing AMOS 25.0 software for subsequent analysis, with a 5% margin of error and a 50% population percentage. The researchers conducted confirmatory factor analyses (CFAs) to evaluate the convergent and discriminant validity of the latent factors. A range of fit indices are utilized in the scholarly literature. We employed only the most widely used indexes.

RESULTS & DISCUSSION

The demographic profile refers to the characteristics and attributes of a certain population or group, such as age, gender, and profession. Among the 400 responses received, it was observed that 17% (n = 68) corresponded to females, while the remaining 83% (n = 332) corresponded to males. Furthermore, 49% (n = 196) of the individuals belonged to the age group of 25s, while 51% (n = 204) were in their 35s and possessed a bachelor's degree, along with an income ranging from 30k to 50k per month. Finally, out of the total respondents, 33% (n = 132) were service holders, 12% (n=48) were housewives, and 55% (n=247) were merchants.

Normality Test

The minimum values for each response ranged from 3 to 4, while the maximum values ranged from 4 to 5. The Kolmogorov-Smirnov test statistic yielded values ranging from 0.204 to 0.446, but the Shapiro-Wilk test statistic yielded values ranging from 0.582 to 0.803. The tests were run at a significance level of $p=0.000$. The survey response values obtained from the respondents exhibit a non-normal distribution.

The Measurement Model (MM)

The "AMOS 25.0 SEM software" was used to do confirmatory factor analysis (CFA) to verify the scales' convergent and discriminant validity. According to the internal reliability analysis, the constructs' Cronbach's values range from 0.70 to 0.83, exceeding the required criterion of 0.70 (Nunnally and Bernstein, 1994). The factor loading with the lowest value, as indicated in Table 1, is 0.784. This discovery verifies the content validity of Hair et al.'s (2010) measurement approach.

The values of the "average variance extracted" (AVE) were higher than the minimal threshold of 0.50, indicating that the CV was at an acceptable level. After looking at the parallel values, which were greater than 0.60 (Bagozzi and Yi, 1988; Fornell and Larcker, 1981), we can see that each construct is reliable.

Table 1: CFA, Cronbach Alpha, CR, AVE

Constructs	Items	CFA Loading	Cronbach Alpha	Composite Reliability (CR)	AVE
Interactivity (IN)	IN_1	0.955	.79	0.80	0.57
	IN_2	0.909			
	IN_3	0.911			
Aesthetics(AS)	AS_1	0.915	.72	0.72	0.55
	AS_2	0.856			
	AS_3	0.784			
Ease of Use(EU)	EU_1	0.968	.80	0.80	0.57
	EU_2	0.928			
	EU_3	0.866			
Personalization(PR)	PR_1	0.927	.82	0.68	0.67
	PR_2	0.875			
	PR_3	0.832			
Customer Trust(CT)	CT_1	0.839	.78	0.81	0.62
	CT_2	0.715			
	CT_3	0.824			
Retention Intention(RI)	RI_1	0.866	.81	0.72	0.65
	RI_2	0.872			
	RI_3	0.868			

Source: SPSS 26

In order to assess the discriminant validity, it is necessary to determine if the maximum shared variance (MSV) is lower than the square root of the average variance extracted (AVE). The values for all variables were less than one, indicating the presence of discriminant validity (Sekaran, and Bougie, 2010). All items exhibited factor loading values greater than 0.7 for each domain, indicating strong internal consistency.

Three item loadings are frequent app usage among individuals with interactive features (0.911), continued engagement with the bank in the future (0.909), and a large app membership base (0.955). in the customer interaction factor. Each of the three aesthetics factor components has a loading of at least 0.784. These include aesthetic design across pages (loading: 0.915), website visual appeal (0.856), emotional connection, and client retention (0.784). Table 1 shows that three items with loadings of at least 0.866 are involved in ease of use, including learning website is user-friendly (0.968), satisfied with website technological features (0.928), and understanding mobile apps clearly (0.866). Three items with factor loadings of 0.927,.875, and 0.832 are about personalization. Customer trust includes three items: confidence that your personal and financial information is secure (0.839), trust in its shariah compliance disclosures (0.715), and adherence to shariah principles in its financial offerings and services (0.824). Retention intentions involve three-factor loadings (.866,.872, and.868).

The following phase involves testing the model's validity, which is demonstrated in Table 1 through the evaluation of the Average variance extracted (AVE), reliability, and discriminant validity of each concept. The Cronbach's alpha coefficient, when an item was removed, varied from 0.72 to 0.83. The overall alpha coefficient for the scale was 0.785. The results indicate that the AVE has a value greater than 0.50, specifically about the factors of interactivity (0.57), Aesthetics (0.55), Ease of use (0.57), Customer test (0.63), Personalization (0.67), Customer trust(.62) and retention intentions(.65). This suggests that the AVE demonstrates satisfactory discriminant validity, as outlined by Fornell and Larcker (1981). The findings of the study demonstrate strong internal consistency and indicate the significance of the items in confirming the scale.

Structural Equation Model (SM)

The correlation analysis indicates that all constructs exhibit a statistically significant and positive link with one another, with a significance level of 0.01.

Table 2: Correlation coefficient, reliability and discriminant validity

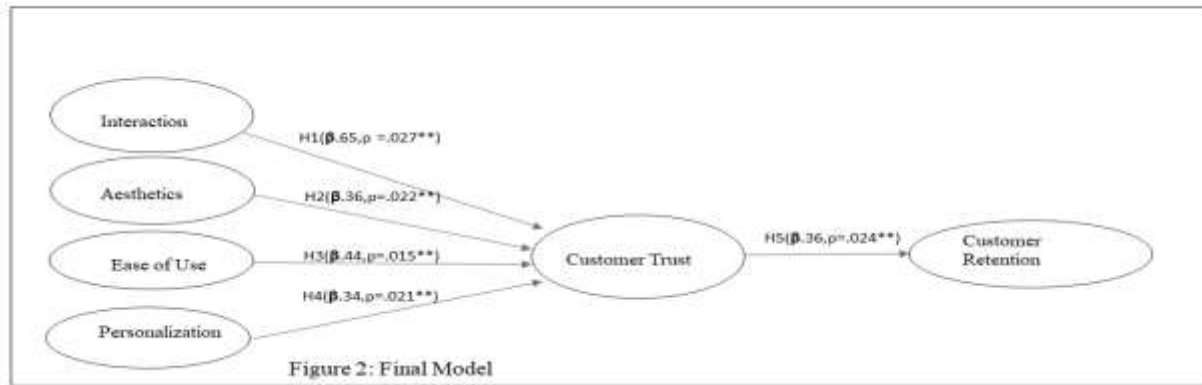
	1	2	3	4	5
IN(1)	(0.882)	-	-	-	
AS(2)	0.476	(0.834)	-	-	
EU(3)	0.434	0.456	(0.852)	-	
PR(4)	0.367	0.423	0.455	(0.810)	
RI(5)	0.421	0.421	0.433	0.422	(0.812)

Source: * P< 1%; SPSS 26

Due to its sensitivity to sample size, the χ^2 statistic may not always be a suitable indicator of a model's goodness-of-fit ($\chi^2 = 516.472$, $df = 246$, $\chi^2/df = 2.10$). Other fit indices such as GFI, RMSEA, RMR, CMIN (χ^2/df), NFI, CFI, TLI, AGFI, and NFI were assessed. The model showed a good match to the data, which included the following values greater than 0.90: CFI = 0.963, NFI = 0.937, GFI = 0.922, TLI = 0.969, and RMSEA = 0.052 (Islam et al.,2018; Barrett,2007; Bentler and Bonett, 1980; Hu, et al.,199; MacCallum et al.,1996; Marsh and Hocvar, 1985; Bollen,1989), With all these factors taken into consideration, it can be concluded that the measurement model adequately fits the data and replicates the covariance matrix.

Table 3: Path Analyses and results of hypotheses

Hypotheses	Paths	β	S.E.	P-values	Decisions
H1	IN $\rightarrow$ CT	0.65	.167	.027	Supported
H2	AS $\rightarrow$ CT	0.36	.136	.022	Supported
H3	EU $\rightarrow$ CT	0.44	.121	.015	Supported
H4	PR $\rightarrow$ CT	0.34	.131	.021	Supported
H5	CT $\rightarrow$ RI	0.36	.136	.024	Supported

Figure 2: Final model and Hypothesis Results

The regression weight (path coefficient) between the interactivity (IN) and Customer trust (CT) is significant and positive ($\beta=0.65$; $p < 0.05$), which firmly confirms that app interactivity has a positive influence on customer trust. Thus, hypothesis H1 is supported at a significance level of 0.01, this confirms that app interactivity positively influences customer trust, as shown in Table 3 and Figure 2. This finding supports previous studies (Hari, et al., 2022; Sivakumar, and Ganeshkumar,2022). The regression weight for aesthetics to customer engagement is 0.36 with a p-value of 0.022, which is greater than 0.05. Thus H2 is supported ($\beta= 0.36$; $p=.022$ as $p < 0.05$) with previous studies (Zahra and Usman, 2022; Baidhowi,2007; Ahmed, and Zainuldin,2022). The path coefficient for ease of use to customer trust is 0.44 with a p-value of 0.015, which is less than 0.05. So ease of use has a significant contribution to customer engagement. Thus, H3 is supported with previous studies (Qadri, et al., 2023). The results of H5 and H6 are supported ($\beta=.34, p < 0.05$), ($\beta=.36, p < 0.05$) respectively with previous studies (Qadri, et al.,2023).

Each of the construct was assessed using a minimum of three items for data analysis. It is worth noting that prior studies primarily concentrated on customers of mobile apps with a particular emphasis on non-university students from Bangladesh (Brun, et al.,2017; Ahmed, Mohiuddin, Rahman, Tarique, and Azim (2022); Yeo et al., 2022), in contrast, this study focuses on alumni students of selected private universities in Chattogram and Dhaka of Bangladesh. Additionally, the analysis found that all the fit indices in the measurement model fall within acceptable ranges, suggesting that the overall fit is satisfactory. The findings of the confirmatory factor analysis indicate that the factor loadings examined in this study exceed the threshold value of 0.50, and the composite reliability (in this case, measured by the maximum shared variance) values surpass 0.70. The findings of interactivity and trust, ease of use have a positive relation with the trust which influences customer intentions matches with previous studies in banking sectors (Hoque, Rahman, Said, Begum, and Hossain,2022; Kumar, et al.,2024; Chowdhury. et al.,2022; Hidayat, 2023). This study differs from previous research (Islam et al., 2018; Itani, et al., 2019) by recognizing the significance of mobile apps as a vital tool for relationship marketing. Mobile app contents of Islamic banks positively affect customer trust and align with prior studies (Nur

Asnawi, 2021; Islam, Shahabuddin and Chowdhury, 2016; Islam and Rahman, 2017; Fauzi and Suryani, 2019). These findings give an empirical support of previous studies (Rahman et al.,2023; Raza,et al.,2019; Shahabuddin,2014; Mahmoud, 2019; Febrian, et al., 2021). Thus, when consumers have interest in, familiarity with, and engagement with a product or service they will pay more for it and purchase repeatedly which is partially consistent with previous study (Xi and Hamari, 2019; Gainsbury et al., 2016).

CONCLUSIONS

This study examined millennial-targeted mobile app features that increase repurchase intention to add to the literature. The suggested model has six hypotheses and twenty-one components, which were tested using data from millennial mobile-app users. Quantitative methods are used to study descriptive research. This study found statistical significance in four categories and a mediation relationship between customer trust and repurchase intention. This study contributes to the literature by proving the validity of instruments used to measure customers' experience, trust in mobile apps, and retention in banks, Islamic bank in particular. The study also makes a valuable contribution by initiating research on customer engagement in a developing context, recognizing the importance of examining diverse geographic and economic circumstances.

Bangladeshi Islamic banks must include chatbots in their management procedures to match clients' behavioral objectives to use Islamic banking services and products. In the apps, nudge services such as loan details, and payments should be incorporated. Managers may build and maintain client relationships, expand social networking opportunities, adapt to cloud-based services, and provide more experiential value. It is recommended to promote interactivity, customization, and the implementation of consistent design and usability enhancements.

The study has limitations but opens the door for future research. Participant opinions on mobile app use may differ from nonparticipant opinions. More behavioral and psychological characteristics should be included in future studies to better understand in-website advertising and user social networking. Covering just alumni of private university students in Chattogram and Dhaka, Bangladesh may limit the sample size, requiring further research to corroborate the assertions. In order to better understand how users' behaviors develop over time, longitudinal studies may be conducted in the future.

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