

ADOPTION AND USER BEHAVIOUR ANALYSIS OF ONLINE PAYMENT APPLICATION AMONG BABY BOOMERS IN COIMBATORE CITY

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Abstract

This study investigates the adoption level and behavioural patterns of online payment applications among Baby Boomers in a rapidly digitising financial environment. The research examines demographic influences, occupational differences, satisfaction levels, and key determinants shaping adoption behaviour. Findings reveal that Baby Boomers adopt online payment applications at a functional level, driven primarily by convenience, time efficiency, and increasing reliance on digital transactions. Their usage behaviour is cautious and selective, indicating that adoption is motivated more by necessity than preference. Two-way ANOVA results show that occupation does not significantly influence perceptions of factors affecting adoption, and no single variable dominates decision-making. Correlation analysis indicates a negligible relationship between age and satisfaction, suggesting satisfaction relates more to system usability, reliability, and service experience than age differences. Regression results demonstrate that perceived security does not significantly affect satisfaction or usage once basic trust is established. The study concludes that Baby Boomers are gradually adapting to online payment technologies and underscores the need for simplified application design, clear guidance, and responsive support to enhance adoption among older users.

Keywords: Online Payment Adoption; Baby Boomers; User Behaviour; Satisfaction; Digital Financial Services.

I. INTRODUCTION

The global shift towards digital financial ecosystems has transformed how consumers conduct financial transactions, with online payment applications becoming integral to everyday life. While younger generations have rapidly embraced these technologies, older cohorts—particularly Baby Boomers (typically born between 1946 and 1964)—exhibit distinct adoption patterns influenced by their unique socio-historical experiences and technological familiarity. Research shows that although older adults increasingly engage with digital payments, their adoption rates and usage behaviours differ significantly from younger cohorts due to perceived risks, usability issues, and trust barriers in digital financial systems.

Studies on generational digital payment behaviour highlight that Baby Boomers are often more security-oriented and selective about adopting new payment technologies compared to younger users, with a marked preference for familiar, reliable methods such as debit and credit cards over newer mobile wallets or emerging FinTech solutions. Moreover, barriers such as limited digital literacy, risk perception, and usability concerns have been identified as key factors that can hinder adoption among older users, even when the potential benefits of online payment systems—like convenience and real-time transactions—are recognized.

In the Indian context, digital payment innovations such as the Unified Payments Interface (UPI) have significantly expanded financial inclusion, yet older adults often remain underrepresented in usage statistics due to a combination of technological, cognitive, and socio-cultural barriers. Given the importance of

inclusive digital finance and the growing global population of older users, analysing the adoption behaviour and user experiences of Baby Boomers with online payment applications is essential for designing age-inclusive financial technologies and targeted support interventions. This study aims to investigate the determinants of adoption, usage behaviour, and satisfaction among Baby Boomer users of online payment applications, thereby contributing to a more comprehensive understanding of generational differences in digital payment adoption.

II. LITERATURE REVIEW

The adoption of online payment applications has been extensively examined across different demographic segments, with generational differences emerging as a significant determinant of technology usage behaviour. Baby Boomers, typically defined as individuals born between 1946 and 1964, represent a cohort that did not grow up with digital technologies and therefore demonstrate distinct attitudes toward technology adoption compared to younger generations. Prior studies grounded in the Technology Acceptance Model (TAM) emphasize that perceived usefulness and perceived ease of use are fundamental predictors of technology adoption; however, these factors tend to operate differently among older users due to age-related cognitive and experiential differences.

Research indicates that Baby Boomers are generally more cautious and risk-averse in adopting online payment systems, placing greater emphasis on security, trust, and reliability. Studies on digital financial behaviour reveal that concerns related to fraud, data privacy, and transaction errors significantly affect older adults' willingness to use online payment applications. Unlike younger users who value speed and convenience, Baby Boomers prioritize confidence, clarity, and institutional trust when engaging with digital financial services.

Several empirical studies also highlight that digital literacy and usability issues act as major barriers for Baby Boomers. Complex interfaces, frequent updates, and lack of personalized support often discourage sustained usage. Social influence, particularly assistance from family members and peers, has been found to positively affect adoption among older users. Furthermore, satisfaction and continued usage among Baby Boomers are closely linked to their initial adoption experience, ease of learning, and perceived control over transactions.

Although existing literature provides valuable insights into generational differences in digital payment adoption, much of the research focuses on millennials and Gen Z, with comparatively limited empirical attention given to Baby Boomers, especially in emerging economies. This underscores the need for focused research on adoption behaviour, usage patterns, and satisfaction levels of Baby Boomer users in the context of online payment applications.

III. PROBLEM STATEMENT

Despite the rapid growth of online payment applications and strong policy support for digital transactions, Baby Boomers continue to demonstrate lower adoption and usage levels compared to younger generations. Many Baby Boomer users face challenges such as lack of digital familiarity, fear of fraud, security concerns, and difficulty in navigating complex application interfaces. These factors not only affect adoption decisions but also influence satisfaction and continued usage behaviour.

While online payment platforms are increasingly designed for speed and innovation, they often fail to adequately address the usability and trust requirements of older users. The absence of age-inclusive design and targeted support mechanisms contributes to hesitation and reliance on traditional payment methods among Baby Boomers. Therefore, it is essential to examine the factors influencing adoption and user behaviour of online payment applications among Baby Boomers, in order to enhance inclusivity and sustained participation in the digital payment ecosystem.

IV. OBJECTIVES OF THE STUDY

- To analyse the adoption and user behaviour of online payment applications among Baby Boomers.
- To identify the factors influencing adoption, such as ease of use, security, trust, and convenience.
- To assess the level of satisfaction of Baby Boomers with online payment applications.

V. RESEARCH METHODOLOGY

Research Design

The study follows a descriptive and analytical research design. The descriptive component aims to examine the adoption pattern and behavioural characteristics of Baby Boomers with respect to online payment applications, while the analytical component seeks to identify relationships, differences, and the influence of selected variables on adoption behaviour. This design is considered appropriate as it facilitates an in-depth understanding of user perceptions, satisfaction levels, and influencing factors in a real-world context.

The research is empirical in nature, relying primarily on quantitative data collected directly from respondents. The empirical approach enables objective measurement of behavioural responses and supports statistical testing of hypotheses related to adoption and user behaviour.

Population of the Study

The population of the study comprises Baby Boomers, defined as individuals born between 1946 and 1964, who have experience in using online payment applications. The population includes respondents from different occupational backgrounds to capture diverse behavioural perspectives within the same generational cohort.

Sample Size and Sampling Technique

A sample of 121 respondents was selected for the study. The respondents were chosen using a convenience sampling method, as it enabled easy access to Baby Boomers who actively use online payment applications.

Instrument for Data Collection

The data collection instrument was a well-structured questionnaire consisting of close-ended questions. A five-point Likert scale was used to measure constructs such as satisfaction, perceived security, and influencing factors. The questionnaire was designed to ensure clarity, relevance, and ease of response for Baby Boomer respondents.

HYPOTHESES OF THE STUDY

Null Hypotheses (H₀)

H₀₁: There is no significant difference between educational qualification and adoption of online payment applications among Baby Boomers.

H₀₂: There is no significant difference between perceived security and adoption of online payment applications among Baby Boomers.

H₀₅: There is no significant difference between adoption reasons and satisfaction level of Baby Boomers using online payment applications.

VI. RESEARCH ANALYSIS

1. INFLUENCE OF SECURITY CONCERN ON ONLINE PAYMENT ADOPTION

In the context of digital financial services, perceived security plays a crucial role in shaping users' satisfaction and continued usage of online payment applications, particularly among older age groups such as Baby Boomers. Given their cautious approach toward technology adoption, understanding whether security feeling significantly influences satisfaction becomes an important analytical concern. To examine this relationship, a simple linear regression analysis was employed. The analysis aims to assess the extent to which security feeling (measured on a 5-point scale) predicts the satisfaction level of users of online payment applications. Regression analysis is appropriate in this context as it enables the estimation of the direction, magnitude, and statistical significance of the relationship between an independent variable (security feeling) and a dependent variable (satisfaction).

Hypothesis:

H₀: There is no significant difference in between security concern and adoption perception towards online payment.

H_a: There is no significant difference in between security concern and adoption perception towards online payment.

TABLE 1
INFLUENCE OF SECURITY CONCERN ON ONLINE PAYMENT ADOPTION

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.088429				
R Square	0.00782				
Adjusted R Square	-0.00052				
Standard Error	1.476081				
Observations	121				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2.043463	2.043463	0.937879	0.3347882
Residual	119	259.2789	2.178814		
Total	120	261.3223			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	
Intercept	3.418327	0.309008	11.06226	0.00	
Security Feeling (1-5)	-0.0906	0.093557	-0.96844	0.334788	

The Multiple R value of 0.088 indicates a very weak correlation between security feeling and the dependent variable. The R Square value of 0.0078 suggests that only 0.78% of the variation in the dependent variable is explained by security feeling. The Adjusted R Square is negative (-0.00052), implying that the model does not improve prediction beyond the mean of the dependent variable. This reflects a poor model fit, which is common when the independent variable has negligible explanatory power.

The ANOVA results show an F value of 0.9379 with a Significance F (p-value) of 0.3348, which is greater than the conventional 5% level of significance. This indicates that the regression model as a whole is not statistically significant, and therefore, security feeling does not significantly explain changes in the dependent variable.

The regression coefficient for Security Feeling is -0.0906, indicating a negative relationship between security feeling and the dependent variable. This implies that a one-unit increase in security feeling is associated with a 0.09 unit decrease in the dependent variable. However, the t-statistic (-0.968) and the p-value (0.3348) indicate that this relationship is not statistically significant.

The intercept value of 3.418 represents the expected value of the dependent variable when security feeling is zero. The intercept is statistically significant (p < 0.01), suggesting a stable baseline level of the dependent variable independent of security feeling.

Based on the regression results, security feeling has no significant impact on the dependent variable. The model explains a negligible proportion of variance, and the relationship observed is statistically insignificant. This finding is consistent with research literature suggesting that psychological perceptions such as security feeling alone may not strongly predict behavioral or performance outcomes without the inclusion of additional explanatory variables.

2. EDUCATIONAL QUALIFICATION AND ADOPTION OF ONLINE PAYEMENT

In studies related to technology adoption, educational qualification and perceived influencing factors are often considered important determinants of user behaviour. Educational attainment may shape an individual’s ability to understand, trust, and effectively use digital platforms, while various factors such as convenience, ease of use, security, and reliability collectively influence adoption decisions.

In order to examine whether educational qualification and factors influencing adoption have a significant effect on the adoption behaviour of online payment applications, a two-way Analysis of Variance (ANOVA) was employed. Two-way ANOVA is an appropriate statistical technique when the objective is to assess the individual and comparative effects of two categorical independent variables on a dependent variable.

The analysis aims to identify whether differences exist in the mean level of adoption behaviour across different levels of educational qualification and across various influencing factors. Additionally, it helps in determining whether variations in user behaviour are attributable to these variables or are primarily due to random error. The factors influencing the adoption of online payment includes Convenience and ease of use, Cashback and rewards, Pandemic-induced necessity, Faster transactions and Security and safety.

Hypothesis:

H₀: There is no significant difference in between educational qualification and adoption perception towards online payment.

H_a: There is no significant difference in between educational qualification and adoption perception towards online payment.

Table 2
Educational qualification and adoption of online payment

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Educational Qualification	25.84	4	6.46	2.40595	0.092549	3.00691
Factors	27.84	4	6.96	2.59217	0.076182	3.00691
Error	42.96	16	2.685			
Total	96.64	24				

Effect of Educational Qualification

The ANOVA results indicate that the F value for Educational Qualification is 2.406 with a corresponding p-value of 0.0925. Since the p-value is greater than the 5% level of significance ($\alpha = 0.05$) and the calculated F value is less than the critical F value (3.0069), the null hypothesis is accepted. This suggests that Educational Qualification does not have a statistically significant influence on the factors affecting the adoption of online payments. In other words, individuals across different Educational Qualification level show similar perceptions and adoption behavior toward online payment systems.

Effect of Factors Influencing Adoption

Similarly, the F value for factors influencing the adoption of online payments is 2.592, with a p-value of 0.0762. As the p-value exceeds 0.05 and the calculated F value is below the critical value, the null hypothesis is accepted. This implies that no single influencing factor differs significantly in shaping online payment adoption, indicating a balanced influence of multiple

At the 5% level of significance, the two-way ANOVA results reveal that neither occupation nor factors influencing the adoption of online payments have a statistically significant effect. Hence, adoption behaviour toward online payment systems appear to be uniform across different education groups and influencing factors.

3. CORRELATION ANALYSIS

Hypothesis:

H₀: There is no significant relationship between age and satisfaction level of respondents.

H_a: There is a significant relationship between age and satisfaction level of respondents.

	<i>Satisfaction (1-5)</i>	<i>Age</i>
Satisfaction	1	
Age	0.071591021	1

The correlation analysis reveals a correlation coefficient (r) of 0.0716 between age and satisfaction level (measured on a 1–5 scale).

This value indicates a very weak positive relationship between age and satisfaction. In practical terms, this suggests that as age increases, satisfaction tends to increase only marginally, and the association is negligible in strength.

Since the correlation coefficient is close to zero, age does not appear to be a meaningful predictor of satisfaction. The relationship is so weak that variations in satisfaction levels are largely independent of age differences among respondents.

VII. RESULTS AND DISCUSSION

This study explored the extent of adoption and the behavioural patterns associated with the use of online payment applications among Baby Boomers. The analysis focused on demographic influences, occupational differences, satisfaction levels, and key factors shaping adoption behaviour in a rapidly digitising financial environment.

The results indicate that Baby Boomers have accepted online payment applications at a functional level, mainly due to practical considerations such as convenience, time efficiency, and increasing dependence on digital transactions. However, their usage behaviour reflects a careful and selective approach, suggesting that adoption is driven more by necessity than by preference.

The findings from the two-way ANOVA demonstrate that occupation does not significantly differentiate perceptions regarding the factors influencing online payment adoption. In addition, no single factor was found to exert a dominant influence on adoption behaviour, indicating that Baby Boomers evaluate online payment applications through a balanced assessment of multiple features rather than relying on one specific motivator.

Correlation analysis further reveals that age has a negligible relationship with satisfaction levels, suggesting that satisfaction with online payment applications remains relatively consistent within the Baby Boomer

age group. This implies that satisfaction is more closely linked to system usability, reliability, and service experience rather than age-related differences.

Regression results show that perceived security does not significantly influence satisfaction or usage behaviour, indicating that once basic trust is established, Baby Boomers are less likely to view security concerns as a major barrier to continued use.

In summary, the study concludes that Baby Boomers are gradually adapting to online payment technologies, displaying cautious confidence and stable usage behaviour. To strengthen adoption among this demographic, service providers should prioritise simplified application design, clear transaction guidance, and responsive customer support. The study highlights the importance of inclusive digital payment strategies that accommodate the behavioural characteristics of older users.

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