

INFLUENCE OF DIGITAL PAYMENT METHODS ON IMPULSIVE PURCHASE BEHAVIOR: EXAMINING THE ROLE OF GOOGLE PAY, CREDIT CARDS AND MINIMUM BANK BALANCE REQUIREMENTS- A DETAILED ANALYSIS

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Abstract: One of the most important wings of Consumer Behaviour is impulsive purchasing decisions which means buying a commodity or a service without any planning. People generally make these kinds of impulsive purchases and later regret it. The advancements in technology have contributed a lot to the growth of this behaviour among individuals. Now-a-days, online payment facilities like UPI payments (generally done through google pay and other UPI platforms) have made financial transactions a lot easier with just a click of a button. Credit card facilities like points, bonuses, awards and predominantly overdraft facilities have made impulsive purchasing behaviour very easy and common among individuals. This in turn has also made people less aware about their financial planning and statistically it is also proven that most of the individuals often fail to maintain the minimum bank balance requirements due to impulsive purchasing decisions. The main goal of the study is to: (1) analyse how the advancements in technology (seamless UPI payments with just a click) trigger the impulsive purchasing behaviour among individuals, and (2) evaluating how impulsive purchasing decisions among people are influenced by maintaining a minimum bank balance requirement. It is seen that people have grown ignorant towards rational financial decision making due to their impulsive purchasing behaviour. The advancement in technology has no doubt been a blessing for mankind but the ease of payment platforms has triggered the impulsive purchasing decisions among individuals a lot. Similarly, credit cards encourage impulsive purchases by minimising the apparent immediate financial impact. Conversely, keeping a minimum amount in bank accounts effectively discourages consumers from making rash purchases because they want to stay out of trouble and keep their credit intact. The Inference shows that Convenience and Ease of use, Perceived Security, User Interface and Integration with E-Commerce Platforms, various Demographic and Behavioural Patterns and other Regulatory and Ethical Considerations cause a rise in the impulsive purchasing Behaviour.

Surveys and questionnaires were used in conjunction with other research methods to gather information on payment methods, the frequency of impulsive purchases, and consumer knowledge of bank balances on the basis of 3 major categories, namely, Psychological Impact of Digital Payments, Technological Factors, Economic Considerations, Consumer Behaviour and Demographics. Inferences showed that the 3 major stated factors play an important role in the Impulsive Purchasing Behaviour and maintaining the minimum bank balance requirements.

KeyWords: impulsive purchase, Google Pay, credit card, minimum balance, consumer behavior, digital payments, financial stability, mobile transactions, contactless payments, psychological impact.

1. Introduction

With the change in technology, the traditional mode of payment in cash has also been replaced by the introduction of the Digital Payment platform. There are various apps that are available to the public for conducting monetary transactions and also reap other psychological benefits which are defined as Economic and promotional strategies implemented by the company. There are also convenience fees charged by platforms such as Google Pay, for transactions related to mobile recharge. Convenience is a comfortable threshold but the topic

on which this study aims to throw light into is a twofold inference: studying the effect of the various digital platforms on the Impulsive Purchasing behaviour of the customers and also understanding the relationship between the minimum bank balance requirements and the impulsive buying decisions.

In order to study these two areas, the study mainly focuses on 4 key components: 1) Consumer Age, 2) Consumer Employment Status, 3) Economic Considerations, and 4) Technological Factors. Each of these elements focuses on significant areas which project the various thoughts that convince people to choose the different digital payment platforms present and also the clash between the thought of maintaining a minimum balance with their bank account and the impulsive buying decisions.

The various digital platforms have removed friction between payments especially by removing the idea of 'change' while paying or receiving money. Another Psychological Impact is the presence of security features that play a pivotal role as people will not be able to make payment without their UPI-Pin. The app itself can be locked by either biometrics or alpha-numeric passcodes. The smooth and seamless interface of the various digital platforms is a technological factor that is convictive enough for people to use digital payment-receipt method and end up in an impulsive buying decision which can later be found to have caused in not maintaining that required minimum bank balance of the respective customer. Another barrier that technological advancement has removed is the barrier to purchase. People can sit comfortably in their couches, order for something, make the payment and receive the item. This procedure consequently may be a catalyst to the impulsive buying decision and if the money is not managed properly, then it may even give rise to the failure of maintaining the minimum amount of bank balance to be maintained by people. Economic considerations like Credit Cards providing a limit beyond the actual balance available in a person's bank also leads to the impulsive purchasing decision. While, on the other hand, if people pay off their credit card bills on time, thereby maintaining a good credit score as well as the minimum bank Balance requirements, it might instigate him to make repeated or occasional Impulsive Buying decisions. Consumer Behaviour and Demographics too play a vital role in the Impulsive Purchasing decisions. The various marketing and promotional strategies implemented by the digital platforms such as Cashbacks, Loyalty benefits, discounts and coupons are also an important factor that has led to an increase in the impulsive purchasing activities. There are also various Regulatory and Ethical Considerations that have led to an increase in the impulsive purchasing behaviours between individuals of varied ages. These considerations mainly focus on the process of spreading public awareness, protection them from debts and also prevent miscreants from exploiting them.

2. Literature Review

Kusnawan et. al., his article Titled " The effect of digital payment to millennial consumer purchase decisions" supported the fact that ease of digital payment platforms can lead to impulsive purchasing decisions, and also explain the relationship between the ease of digital payment platforms and impulsive purchase decisions. Among individuals.

Ghaith et. al., in his paper titled " examining the effects of digital payment and impulsive purchase on purchase intention" clearly explained the relationship between the characteristics of digital payment platforms and impulsive purchasing decisions. He also found out that consumers were more willing to make impulsive purchasing decisions with easier modes of payment like UPI and other offers and benefits as generated by the platforms.

Halim et. al., in his paper title " the impacts of e- payment system and impulsive buying to purchase intention in e-commerce" mentioned that growing technological advancements in the field of financial markets often lead to impulsive, purchasing decisions by individuals. Convenience of online shopping, combined with the ease of mode of payment through online financial platforms, often lead to impulsive purchasing decisions, and advancements in the digital payment sector is a potential driver of impulsive purchasing decisions among citizens.

Yadav et. al., in his paper titled " impact of digital payment on in-stored impulse buying" examines the role of digital payment platforms on impulsive purchase decisions by individuals. He also studied how different benefits like coupons, vouchers, rewards and other benefits were linked with impulsive purchasing decisions made by people. He also examined how the diversity of modes of online payment can transform an individual's mind towards impulsive purchasing decisions.

Azmi. et. al., in his paper titled, "exploring the factor influencing buy now pay later mechanism on the impulsive purchase decision" studied, how buy now pay later option in different stores as well as in online mode reduces the immediate financial barrier and influences consumers to buy products. This in turn also boosts impulsive purchasing behavior among people.

Sahai. et. al., in his paper titled "impact of digitization on impulsive buying - what makes the customer bite the bait" investigated how technological advancements in various sectors help impulsive purchasing decisions grow in the economy. He also found out how different benefits like coupons, attractive discounts can accelerate different impulsive, purchasing decisions made by individuals.

Cahyani. et. al., in his paper titled, "the influence of price discount, framing and price perception on impulsive, buying with pay later payment system as a moderating variable in e-commerce" investigated how payline options attract customers to buy various items. He also found out that pay-later options often lead to impulsive purchasing decisions, and customers buy a lot of unnecessary things which they do not need right then.

Darmawan. et. al., in his paper titled, "understanding impulsive buying behavior in the marketplace" studied. How simplicity and ease of usage of different payment platforms influence impulsive purchasing decisions among individuals. She also studied that advancements in the field of technology often lead to customers buying unnecessary items due to the presence of any coupons or vouchers or any attractive discounts.

Ritu. et. al., in his paper titled, "a study on antecedents leading to impulsive buying in an evolving cashless Indian economy" studied how the perception of different Indian consumers change when there are a lot of variety in the digital payment platforms and the ease of usage of these platforms often lead to impulsive purchasing decision.

3. Objectives

This study has two main Objectives that helps us to understand the Influence of Digital Payments on the Impulsive Purchasing Behaviour:

- 1) Investigate how digital payment methods, such as credit cards and Google Pay, affect impulsive purchase behavior.
- 2) Evaluate how keeping a minimum bank account balance influences impulsive buying tendency.

4. Research Methodology

This study is based on both Primary as well as Secondary Data. In order to collect the Primary data on payment methods, the frequency of impulsive purchases, and consumer knowledge of bank balances, surveys and questionnaires using a 5-Point Likert Scale were combined with other research methods. These data were gathered based on 4 major categories: Consumer Age, Consumer Employment Status, Technological factors and Economic considerations. The primary data collected, were analysed to study the link between impulsive purchasing decisions and the 4 factors as mentioned earlier. It is found that these factors have a significant effect on impulsive purchasing behaviour among individuals and that the extreme ease of payments provided by the digital platforms trigger these decisions consequently not allowing people to maintain the minimum bank balance requirements. The Secondary Data is collected from reputed journals and other verified internet sources. Two hypotheses have been framed for conducting the study to see how Impulsive Purchasing Behaviour linked to the Consumer Age. Employment Status, Technological Factors and Economic Considerations. To test the hypotheses, various statistical tests such as the Model Fitting Information, Goodness-of-fit, Pseudo R-Square, Parameter Estimates, Test of Parallel Lines and the Odds ratio were conducted. The Independent Variables were Age and Employment Status and the Dependent Variables were Technological Factors and Economic Considerations.

The first Hypothesis was:

H_0 : Technological Factors are not dependent on Consumer Age and Employment Status, thereby playing no role in Impulsive Purchasing Behaviour among individuals.

H_1 : Technological Factors are dependent on Consumer Age and Employment Status, thereby playing a pivotal role in Impulsive Purchasing Behaviour among individuals.

The second Hypothesis framed was:

H_0 : Various Economic Considerations are not dependent on Consumer Age and Employment Status, thereby playing no role in Impulsive Purchasing Behaviour among individuals

H_1 : Various Economic Considerations are dependent on Consumer Age and Employment Status, thereby playing no

role in Impulsive Purchasing Behaviour among individuals.

5. Analysis and Findings

To test the first set of Hypothesis, i.e., whether Technological Factors are dependent on the Consumer Age and Employment Status consequently promoting Impulsive Purchasing Behaviour, the various statistical tests were performed on the Primary Data set and then the results were interpreted. The various tests performed were Model Fitting Information, Goodness-of-fit, Parametric Estimates, the Test of Parallel lines and the Odds Ratio. The Analysis was done in 2 stages: Stage 1: Ordinal Regression Analysis, Stage 2: Test of Parallel Lines (for Hypothesis 2) and Stage 3: The Odds Ratio Test.

Hypothesis 1: Dependence of Technological Factors on Consumer Age and Employment Status:

The technological factors considered here are Ease of Usage, Frictionless Transactions and Interactive User Interface. This hypothesis tests whether these technological factors have got any effect on the Impulsive Purchasing Behaviour of Individuals of Varied Ages and Employment Status. The Dependent Variable here is Technological Factors and the Independent Variables are Consumer Age and Consumer Employment Status.

Stage 1: The Ordinal Regression Analysis:

The Ordinal Regression Analysis is a statistical test which is used to model the relationship between the dependent variable Technological Factors and the 2 independent Variables Consumer Age and Consumer Employment Status.

1. Model Fitting Information:

The Model Fitting information test is a statistical evaluation to observe how well a statistical model fits a set of the observed Primary Data. It also denotes whether the model (Dependence of Technological Factors on Consumer Age and Employment Status) is overfitting by balancing complexity and fit quality.

Table 1A. Model Fitting Information (Computed by authors)

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	98.574			
Final	49.137	49.437	4	0.000

Link function: Logit. (Source: Computed by Researcher)

In the Model Fitting Information, the significance value (p-value) of 0.000 infers that the model is highly significant. In simple words, it shows that there is a strong likelihood that the fitted model provides a significantly better fit as compared to the Null-Hypothesis (Technological Factors are not dependent on Age and Employment status in provoking Impulsive Purchasing Behaviour).

2. Goodness-of-fit:

In the Statistical Test of Goodness-of-fit, a good fit means that the model or the theoretical distribution adequately represents the data set. In simple terms, goodness-of-fit tests help to determine whether the model being used is appropriate for the data set in hand.

Table 1B. Goodness-of-Fit (Computed by Authors)

	Chi-Square	df	Sig.
Pearson	18.103	12	.113
Deviance	18.980	12	.089

Link function: Logit. (Source: Computed by Researcher)

It is observed that a deviance value of 0.089 predicts that the model has a very good fit and there is little discrepancy between the observed and the predicted value.

3. Pseudo R-Square:

The Pseudo R-Square gives an idea of how well the independent variables (Consumer Age and Consumer Employment Status) explain the variability in the dependent variable (Technological Factors). It is useful for comparing the relative goodness-of-fit of different models. A higher Pseudo R-Square value indicates a better model fit.

Table 1.C. Pseudo R-Square (Computed by Authors)

Cox and Snell	0.179
Nagelkerke	0.202
McFadden	0.091

Link function: Logit. (Source: Computed by Researcher)

Nagelkerke's R-Square is one of the most commonly reported Pseudo R-Square values which is a modification of Cox & Snell's R-Square that adjusts the value to be between 0 and 1. The Nagelkerke R-Square of 0.202 denotes that the model explains 20.2% of the variation in the Dependent Variable (Technological Factors) but there may be room for improvement in the model's predictive power.

4. Parametric Estimates:

The Parametric Estimates of this study is very interesting. For the Employed People in the independent variable Consumer Employment Status, the value of the estimate is -15.069 and for the independent variable Consumer Age, the value of the estimate for people aging between 24-37 years and above is -15.035. This denotes that it is associated with an increased likelihood of the case falling into a lower category of the dependent variable (Technological Factors) for both the cases.

This also further infers that people who are between the age of 24-37 years or even above and are employed are not inclined towards Impulsive Purchasing behaviour no matter what their income is. They are the ones who take rational decisions and do not fail to maintain the minimum bank balance requirements. On the other hand, employed people below 24 years of age and even unemployed people of lower age group are more inclined towards impulsive purchasing behaviour. Technological factors such as ease of usage, user interface and frictionless transactions play a vital role in impulsive purchasing behaviour depending upon age and employment status of individuals.

5. Odds Ratio:

The Odds Ratio represents the odds of falling into a Higher/Lower Category on the Dependent Variable (Technological Factors) with a unit change in the Independent Variable (Consumer Age and Consumer Employment Status).

Table 1D. Odds Ratio (Computed by Authors)

Independent Variables	Odds Ratio
Consumer Age	1.75889
Consumer Employment Status	2.85507

(Source: Computed by Researcher)

For the Independent Variables: Consumer Age & Consumer Employment Status, the odds ratio are 1.75889 and 2.85507 respectively. This implies that the odds of Consumer Age are 1.75 times greater in case of ease of payments, frictionless transactions and interactive user interface (Technological Factors). Similarly, the odds of Consumer Employment Status are 2.85 times greater in case of ease of payments, frictionless transactions and interactive user interface (Technological Factors).

Inference of Hypothesis 1: Unemployed young people (18-24 years) as well as Employed people of young age (24-37 years) are more inclined towards impulsive purchasing behaviour due to Technological factors such as ease of usage, frictionless payment procedures and interactive user interface, making them unable to maintain minimum bank balance requirements whereas Elderly Employed individuals (37+ years) have a rational thinking and are more likely not to make impulsive purchasing decisions making them maintain minimum bank balance requirements.

Hypothesis 2: Dependence of Economic Considerations on Consumer Age and Employment Status:

The Economic Considerations here are Cashbacks, Coupons, Offers such as buy-1-get-1 and credit card offers. The Dependent Variable here is Economic Considerations and the Independent Variables are Consumer Age and Consumer Employment Status. The analysis of this Hypothesis is done in 3 stages: Stage 1: The Ordinal Regression Analysis, Stage 2: The Test of Parallel Lines, Stage 3: The Odds Ratio.

Stage 1: The Ordinal Regression Analysis:

Ordinal Regression analysis is conducted in this case to predict the probability of the dependent variable (Economic Considerations) falling into each of its ordered categories, based on the values of the independent variables (Consumer Age & Employment Status).

1. The Model Fitting Information:

The Model Fitting information test is a statistical evaluation to observe how well a statistical model fits a set of the observed Primary Data. It also denotes whether the model (Dependence of Economic Considerations on Consumer Age and Employment Status) is overfitting by balancing complexity and fit quality.

Table 2A. Model Fitting Information (Computed by Authors)

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	103.748			
Final	43.468	60.280	4	0.000

Link function: Logit. (Source: Computed by Researcher)

In the Model Fitting Information, the significance value (p-value) of 0.000 infers that the model is highly significant. In simple words, it shows that there is a strong likelihood that the fitted model provides a significantly better fit as compared to the Null-Hypothesis (Economic Considerations are not dependent on Age and Employment status in provoking Impulsive Purchasing Behaviour).

2. The Goodness-of-fit test:

In the Statistical Test of Goodness-of-fit, a good fit means that the model or the theoretical distribution adequately represents the data set. In simple terms, goodness-of-fit tests help to determine whether the model being used is appropriate for the data set present.

Table 2B. Goodness-of-Fit (Computed by Authors)

	Chi-Square	df	Sig.
Pearson	14.970	12	.243
Deviance	14.936	12	.245

Link function: Logit. (Source: Computed by Researcher)

A p-value of 0.245 means that the model provides a reasonably good fit to the data and confident enough that the predictions and inferences from the model are valid within the context of the analysis.

3. The Pseudo R-Square test:

The Pseudo R-Square gives an idea of how well the independent variables (Consumer Age and Consumer Employment Status) explain the variability in the dependent variable (Economic Considerations). It is useful for comparing the relative goodness-of-fit of different models. A higher Pseudo R-Square value indicates a better model fit.

Table 2C. Pseudo R-Square

Cox and Snell	0.214
Nagelkerke	0.246
McFadden	0.119

Link function: Logit. (Source: Computed by Researcher)

The Nagelkarke Value of 0.246 means that the model explains 24.6% of the variability in the Dependent Variable Economic Considerations, meaning that the model has a modest but meaningful ability to explain the outcome.

4. Parametric Estimates:

The Parameter Estimates test in ordinal regression analysis is conducted to determine the effect and significance of each independent variable (Consumer Age & Employment Status) on the Dependent Variable (Economic Considerations). The value of the Estimates of the Independent Variables Employment Status and Age are 1.462 and -3.301 respectively which means that Consumer Employment Status shows the probability of the case falling above the given category on the dependent variable (Economic Considerations) whereas Consumer Age shows a

value meaning that it is associated with an increased likelihood of the case falling into a lower category of the dependent variable (Economic Considerations).

2. The test of Parallel Lines:

The Test of Parallel Lines is used to determine whether the assumption of proportional odds is met.

Table 2.D. Test of Parallel Lines^a (Computed by Authors)

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	43.468			
General	.000 ^b	43.468	12	.000

(Source: Computed by Researcher)

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

b. The log-likelihood value is practically zero. There may be a complete separation in the data. The maximum likelihood estimates do not exist.

The p-value shows a value of 0.000 (which is less than 0.001). This means that the Null-Hypothesis is rejected. In simple words, the assumption of proportional odds does not hold for the data.

6. The Odds Ratio Test:

The Odds Ratio represents the odds of falling into a Higher/Lower Category on the Dependent Variable (Economic Considerations) with a unit change in the Independent Variable (Consumer Age and Consumer Employment Status).

The Odds Ratio of the Independent Variables Employment Status and Age are 3.849718389 and 6.57333 respectively. This means that the odds of Consumer Employment Status are 3.84 times greater in case of Cashbacks, Coupons, Offers such as buy-1-get-1 and credit card offers (Economic Considerations). Similarly, the odds of Consumer Age are 6.57 times greater in case of Cashbacks, Coupons, Offers such as buy-1-get-1 and credit card offers (Economic Considerations).

Table 2E. Odds Ratio (Computed by Authors)

Independent Variables	Odds Ratio
Consumer Employment Status	3.849718389
Consumer Age	6.57333

(Source: Computed by Researcher)

Inference of Hypothesis 2: Unemployed young people (18-24 years) as well as Employed people of young age (24-37 years) are more inclined towards impulsive purchasing behaviour due to Economic Considerations such as e Cashbacks, Coupons, Offers such as buy-1-get-1 and credit card offers, making them unable to maintain minimum bank balance requirements whereas Elderly Employed individuals (37+ years) have a rational thinking and are more likely not to make impulsive purchasing decisions making them maintain minimum bank balance requirements.

5. Conclusion

It is observed from the study that Technological factors remain a very important sector in the field of Digital Transactions as well as impulsive purchasing decisions. The ease of use of the various digital platforms, diluted hindrances in purchasing goods and also the economic considerations together makes an individual make an impulsive purchasing decision. Credit card companies providing the customers with the feature of bank overdraft makes it easier for people to make an impulsive purchasing decision. Coupons, Cashbacks, Offers etc., are also the reasons why people make an impulsive purchasing decision. These decisions consequently trap people and they often fail to maintain their minimum bank balance. Maintaining an amount above the required minimum bank balance projects the financial literacy of an individual. But with the introduction of Digital Payment

Platforms and the psychological and technological benefits provided by it, individuals often make impulsive purchasing decisions and most of them often fail to maintain the minimum bank balance requirements.

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