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Embedded Finance and Impulse Buying Behaviour in E-Commerce: Evidence from Online Shoppers in Coimbatore

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Abstract

Convenience features, not credit itself are the strongest drivers of impulse buying among embedded finance users in this survey of 120 online shoppers in Coimbatore, Tamil Nadu. Embedded finance, meaning payments, credit and instalment options built into shopping platforms shortens the path from desire to purchase. The study used a questionnaire, convenience sampling, percentage analysis weighted average scores and chi-square tests to identify which triggers lead to unplanned purchases and whether demographic groups respond differently. Easy payment options ranked first among six statements (weighted average 29.0) ahead of unplanned purchasing (26.8) and fast checkout (26.6). Limited-time discounts were the frequently chosen single trigger (52.5%) while BNPL/EMI availability was chosen by 18.3%. 8.3% Of respondents said embedded finance had little influence on their purchase decision. Age (χ^2 = 24.022, p =.020) and monthly income (χ^2 = 28.722 p =.004) were significantly associated with the way embedded finance affected purchase decisions; gender and occupation were not. The results suggest that platform design choices, such, as frictionless checkout and time-limited offers deserve much scrutiny as the credit products themselves.

Keywords: embedded finance; impulse buying; Buy Now Pay Later; e-commerce; UPI; consumer behaviour; Coimbatore

1. Introduction

Embedded finance has changed checkout into a place where credit and goods can be bought together. Embedded finance means services like payments, lending and instalments that are offered apps that are not financial using software connections and helped by artificial intelligence and new rules [1]. A shopper no longer has to exit the shopping app to find a loan or a payment tool; that choice shows up right when the shopper wants to buy. Start-ups in payments show how fast this change is happening: mobile wallets are the group among 2,296 start-ups examined worldwide and Buy Now Pay Later (BNPL) is a newer part of the market [2].

The worry is that convenience removes the pause that people use to think about whether they can afford something. Digital payment systems are linked to spending because they cut down on effort and the "payment pain" that usually stops people from buying too much [3]. Earlier studies in psychology also found that less pain of paying can lead to much buying, risky credit use and families that owe too much money [4]. If this idea works at checkout then embedded finance is likely to make more purchases unplanned. India is an example to look at. According to the project overview used for this paper embedded finance spread a lot after 2016 when UPI and smartphones grew and BNPL use grew faster after 2018 as fintech lenders joined e-commerce sites. No-cost EMI, digital wallets and one-click payments are now normal, at checkout.

1.1 Problem statement

Embedded finance makes shopping faster. It can also reduce the time people take to think about whether they really need something or if they can afford it. Many online shoppers end up buying things they didn't plan to without thinking about the money they are spending. Often they don't realize how the way they pay—, like one-click purchases or buy-pay-later options—can influence their buying habits. That's why it's important to understand which features of embedded finance lead people to make purchases. It's also key to know which kinds of shoppers are most affected by these features.

1.2 Objectives

1. To look at how embedded finance affects the way people buy things online.
2. To study how embedded finance influences unplanned shopping choices made by online shoppers.
3. To check if age, gender, occupation and monthly income have any connection, to how embedded finance shapes buying decisions.

2. Review of Literature

Prior research connects payment convenience, rewards and buy now pay options to more and quicker spending but it doesn't often look at embedded finance as a single system. The studies listed are divided based on the mechanism they focus on.

2.1 Situational pressure and payment incentives

Digital payment tools are more likely to be used when certain situations make them appealing. Chen and others discovered that the features of mobile payment services along with things like what someone wants to buy and how time they have all come together to influence whether people decide to use these tools. This means that using payments is a smart choice only in certain situations [5]. Rewards also have an effect. In a study that looked at 600 people living in cities and areas that're part city and part rural things like cashback reward points and discounts helped increase how much people spent. These incentives made people feel like they were spending less. People who used these tools often became less concerned about prices. This was especially true for young people like Millennials and Gen Z. Cashback and discounts made people spend away [6]. These results show that offers that are only available, for a time and easy to use payment tools might work well together.

2.2 BNPL and impulse buying

Research on BNPL shows that it has two roles. In a study done in India BNPL made shopping easier made people buy often and made them feel more satisfied.. It also made people buy things they did not really need and made it easier to get into debt. The study found that age and gender did not matter much. However why people wanted the product how it was. How flexible the payment options were did matter [7]. Loomis and Cockayne say that BNPL is making credit part of payments. They say most users are young and women. The effects of BNPL are worst for people with money and those who are not well off [8]. Research on Shopee PayLater in Indonesia shows that people started using it because of what others said and because of online messages. This made them buy things because they wanted them not because they needed them. Young users in particular faced financial problems because of this [9]. All these studies connect buying on impulse, to both the product itself and how it is sold.

2.3 Adoption drivers and risks

Adoption studies can explain why convenience-based offerings are rising. A study of 100 consumers in Saudi Arabia found that people had positive views of BNPL. These views were shaped by how useful people thought BNPL was, how easy it was to use, influences and other outside factors [13]. A comparison across 23 economies showed that BNPL is one of the important fintech innovations that change how people behave change how credit is used and need worldwide protection for users [14]. In China people said that they adopted mobile fintech services because of practical benefits and social value and they saw the service as more useful than fun [15].. The same convenience design also makes BNPL a target, for security attacks because of relaxed checks and the API-driven structure, which gives many entry points for criminals [16].

2.4 Research gap

Most previous studies look at one part like payments or BNPL and most use data from developed countries. Few look at how features like BNPL, EMI and instant credit affect impulse buying in an Indian city like Coimbatore, where digital payments are increasing fast. This paper fills that gap by checking which embedded-finance features have the effect, on impulse buying and if different groups of people react differently.

3. Research Methodology

The study is a survey of 120 online shoppers, in Coimbatore. The descriptive survey uses percentages weighted averages and chi-square tests to analyse the data. This descriptive survey design fits the goal of showing what people know about embedded finance how they use it and what they think about it.

Element	Detail
Area of study	Coimbatore city, Tamil Nadu, India
Research design	Descriptive
Primary data	Structured questionnaire covering use of BNPL, digital wallets, EMI and in-app payments, impulse buying tendencies and perceptions
Secondary data	Journals, books, published papers, reports and online databases
Sample size	120 respondents
Sampling technique	Convenience sampling (non-probability)
Tools of analysis	Percentage analysis, multiple response analysis, weighted average analysis, chi-square test
Significance level	5% ($\alpha = 0.05$)

3.1 Analytical tools

Percentage analysis ($P = X/N \times 100$) described respondents profile. Respondents shopping behaviour. Multiple response analysis was applied where respondents could choose options, such as respondents preferred platforms and respondents product categories. Weighted average scores converted agreement ratings on six statements into values and respondents ranks were assigned from those scores. Chi-square tests examined whether respondents purchase decisions, under embedded finance differ across respondents groups.

3.2 Hypotheses

Four null hypotheses were tested against the question of how embedded finance options affect the online purchase decision.

- H_o1: There is no significant relationship between age and the effect of embedded finance on the purchase decision.
- H_o2: There is no significant relationship between gender and the effect of embedded finance on the purchase decision.
- H_o3: There is no significant relationship between occupation and the effect of embedded finance on the purchase decision.
- H_o4: There is no significant relationship between monthly income and the effect of embedded finance on the purchase decision.

3.3 Limitations

The sample size is small and comes from one city so the findings cannot be applied to all Indian shoppers. Responses were given by the participants themselves which might include some bias. In chi-square tables many cells show expected frequencies below five especially for people, over 30 years old. Because of this the test results should be seen as not definite.

4. Results and Analysis

Ten of one hundred twenty respondents that is eight point three percent said embedded finance had little influence on their purchase decision. So ninety-one point seven percent reported some effect from embedded finance. The effect from embedded finance was often on the value of the purchase thirty-two point five percent. The effect from embedded finance also made people buy earlier than planned twenty-eight point three percent. The effect, from embedded finance made people buy more frequently twenty-four point two percent. The rest of this section shows who the respondents are, what triggers them and where demographic groups differ.

4.1 Respondent profile

Variable	Largest group	Share of sample
Age	21–30 years	43.3%
Gender	Female (male: 47.5%)	52.5%
Education	Undergraduate	57.5%
Occupation	Student (private employed: 30.8%)	39.2%
Monthly income	Below ₹25,000	44.2%
Monthly online spending	Below ₹1,000 (₹3,001–5,000: 32.5%)	39.2%

4.2 Shopping behaviour and payment methods

Amazon, Flipkart and Meesho were the used platforms, with Amazon used by 60.0 % of the respondents Flipkart by 51.7 % and Meesho by 41.7 %. Respondents could name than one platform. Fashion and apparel were the leading categories, with 47.5 % of respondents buying fashion and apparel and electronics and gadgets were next with 46.7 % of respondents buying electronics and gadgets. The largest group of respondents 38.3 % browsed for 30–60 minutes before buying and 13.3 % spent under ten minutes so quick decisions were not the norm.

Social media and advertisements were the source of awareness of embedded finance, with 34.2 % of respondents citing social media and advertisements ahead of banks and fintech partners which were cited by 27.5 % and e-commerce platforms, which were cited by 22.5 %. The preferred embedded payment option was UPI, chosen by 34.2 % of respondents followed by wallets, chosen by 32.5 % debit or credit cards chosen by 24.2 % and BNPL chosen by 9.2 %. Frictionless payment tools therefore. BNPL is used the least.

4.3 Triggers of impulse buying

Limited-time discounts were the reason for action picked by, over half of the people who responded.

Most important trigger	Respondents	Share
Limited-time discount	63	52.5%
Easy and fast checkout	31	25.8%
BNPL/EMI availability	22	18.3%
Emotional excitement	4	3.3%

Easy checkout and BNPL/EMI together account for 44.1 percent of choices so easy checkout and BNPL/EMI are the first things customers think of while embedded features rank behind time-limited offers but still rank above emotion.

4.4 Weighted average analysis

When respondents rated six statements, easy payment options scored the highest. Easy payment options were the favourite. Unplanned purchasing and fast checkout followed, with unplanned purchasing and fast checkout strong. Discounts and special offers being ranked least with the lowest weighted average score.

Rank	Statement	Total score	Weighted average	Mean (out of 5)
1	Easy payment options encourage me to complete purchases quickly	435	29.00	3.63
2	I often make unplanned purchases while shopping online	402	26.80	3.35
3	Fast checkout processes increase my likelihood of purchasing	399	26.60	3.33
4	I feel excitement while making instant online purchases	398	26.53	3.32
5	I experience regret after some online purchases	394	26.27	3.28
6	Discounts and special offers influence my buying decisions	387	25.80	3.23

4.5 Chi-square tests: who is affected differently?

Age and monthly income were strongly linked to how embedded finance influenced the purchase decision; gender and occupation were not.

Demographic factor	χ^2	df	p-value	Decision on H_0
Age	24.022	12	.020	Rejected (significant)
Gender	8.761	4	.067	Accepted (not significant)
Occupation	18.729	16	.283	Accepted (not significant)
Monthly income	28.722	12	.004	Rejected (significant)

The cross-tabulations reveal the direction of the age and income effects. Among respondents aged 21–30, 22 of 52 (42.3%) said embedded finance encourages higher-value purchases, versus 9 of 49 (18.4%) of those below 20. The younger group often reported frequent purchases (15 of 49 30.6%, versus 9 of 52, 17.3%) and also contained 8 of the 10 respondents who saw little influence. By income 18 of 53 (34.0%) respondents earning below ₹25,000 reported frequent purchases whereas 16 of 30 (53.3%), in the ₹30,001–50,000 band reported higher-value purchases compared with 9 of 53 (17.0%) in the lowest band. Lower earners appear to use embedded options to buy often and higher earners to buy more expensive items. Both patterns come from cells and should be treated cautiously.

5. Discussion

The survey shows that payment convenience, not credit is the way embedded finance drives impulse buying. Easy payment options and quick checkout were ranked first and third by respondents. UPI and wallets were the method for 66.7 % of people while BNPL was chosen by only 9.2 %. This matches research that says digital payment tools speed consumption by cutting friction costs and payment pain. It also shows that mobile payments lower the control that limits spending. The findings also fit the idea that utilitarian value moves people to use fintech, which is seen as functional rather, than fun. Payment convenience remains the factor for impulse buying.

The importance of limited-time discounts requires attention. They were the factor leading all other options at 52.5% but the discount statement scored last in agreement ratings. These two questions assess things—one asks for a single choice the other measures agreement with each statement. Still the difference, in agreement scores is 3.2 points. A better way to read this is that time-limited offers and frictionless payment go hand in hand. This matches evidence showing that time pressure and purchase intention together influence payment behavior [5]. That discounts and cashback encourage people to spend sooner [6].

BNPL and EMI were not as important as we had expected. 18.3 Percent of respondents said that BNPL or EMI were the main reason for buying. BNPL was the payment option that was chosen the least. EMI was also not a trigger. This view

is different from research that shows BNPL as a clear driver of impulsive buying and debt, in India [7]. The difference may be because the sample had incomes and the study used convenience sampling. This does not mean that credit features are harmless because the same research and others warn that debt can build up and fraud can occur [7][16].

The demographic results add some nuance. Age and income influenced how embedded finance affected purchases. Gender and occupation did not. The lack of a gender effect matches the Indian BNPL study that found no influence of age or gender [7] although age was significant in this case and it differs from the observation that BNPL users tend to be young and female [8]. The income pattern makes sense: shoppers earning below ₹25,000 were more likely to say they bought often while mid-income shoppers more often reported buying higher-value items, which is exactly what instalment options might help with.. Because many cells, in the data are small these differences need to be confirmed with a larger and more representative sample.

Finally respondents were not acting purely on impulse: most spent least 30 minutes browsing and signs of impulse buying existed alongside more deliberate behavior. The results do not show that embedded finance causes buying. Instead they show which features people associate with it.

6. Conclusion and Implications

Embedded finance is tied to buying mainly because of easy payment, fast checkout and offers that last only for a short time. The impact of embedded finance changes with age and income. In a survey of 120 shoppers, in Coimbatore 91.7 percent said embedded finance swayed their buying choice. When asked about factors shoppers put payment first out of six statements and the single biggest trigger was a limited-time discount. The options BNPL and EMI did not play big a role as people had thought. Implications for platforms and policymakers would be to design features that stop the route to payment are likely to give the best response. Cool-off periods or purchase confirmation steps budget alerts and user-set spending limits would add a pause to a fast checkout. Time-limited offers deserve attention because respondents named them most often as a trigger. Younger and lower-income users, who differed most in their responses are targets, for such safeguards.

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