The impact of buy now pay later payment option (BNPL) on consumer buying decisions: testing the moderating role of customers' spending patterns.
(Analytical descriptive study)

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Abstract:

Purpose: the main purpose of this study is to assess the impact of the Buy Now Pay Later purchase option on purchase decisions. Another aim is to empathize with this phenomenon by studying the moderating role of consumers' spending patterns, studying pervious variables in the Egyptian market.

Design / methodology / approach: A sample of 360 customers using BNPL as a payment option was selected using snow-ball probability sampling, and a standardized questionnaire was undertaken using both the electronic survey (Google format), and written questionnaire. Additionally, descriptive and inferential statistics were carried out using SPSS V.29 and (SmartPLS 3) for

Structural Equation Modelling- Partial Least Squares (SEM-PLS) analysis was performed to assess the hypotheses driven by the study's research model. Theoretical support will enable deeper investigation into moderating the role of consumer spending patterns in the relationship between Buy now pay later (payment option) and consumer buying decision.

Findings: the results shows that Buy now pay later payment option has a significant positive impact on consumer buying decision (BNPL & consumer buying decision). all the studied features of buy now pay later payment option (availability, flexibility and convivence) found to have a strong significant impact on consumer buying decision, another finding that is crucial to the study, consumer spending patterns will not moderate the relationship between buy now pay later payment option and consumer spending patterns.

Originality – value : The research findings contribute to the existing body of knowledge within the field, as well as relevant theories, by shedding light on the buy now pay later phenomenon and its consequences for both consumers and marketers. The conceptual framework of this study and all of the hypotheses were thoroughly tested using a quantitative approach and structural equation modeling with the Partial Least Square (PLS) algorithm and bootstrapping technique. Using data pooled from 360 respondents, Understanding the influence of BNPL (Buy Now, Pay Later) payment options on

consumer purchasing decisions has practical implications for marketers and managers in creating informed strategies, hence, increasing purchasing intention through point-of-sales financing such as BNPL options. Previous studies have supported that affordable payment options can drive purchasing intention in various contexts. Subsequently, this research (first applied in Egypt) discusses how the findings reflect and contribute to existing literature and theories on BNPL as a new payment option and its impact on consumer buying decision testing the moderating role of consumer spending patterns.

Keywords: Buy Now Pay Later (BNPL) , Consumer purchasing decision , consumer spending patterns , financing companies.
Research type : research paper.

الدور المعدل لأنماط انفاق العملاء في العلاقة بين خيار الدفع، الشراء الآن و الدفع لاحقا (BNPL) علي قرار الشراء (دراسة وصفية تحليلية)

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الملخص :

الغرض الرئيسي من هذه الدراسة هو تقييم تأثير خيار الشراء الآن و الدفع لاحقا علي قرارات الشراء الخاصة بالمستخدمين مع دراسة الدور المعدل لأنماط انفاق المستهلكين ودراسة هذه المتغيرات في السوق المصري .

التصميم والمنهجية:

تم اختيار عينة عشوائية مكونة من ٣٦٨ عميل من مستخدمي (الشراء الان والدفع لاحقا كخيار للدفع و التقسيط) وتم إجراء استبيان الكتروني بالإضافة الي استخدام استبيانات مطبوعة تم توزيعها علي المستخدمين في القاهرة الكبرى و الجيزة و تم اجراء الإحصاء و الوصفي و الاستنتاجي باستخدام برنامج SPSS V2 , SMART PLS3

و تم اجراء تحليل المربعات الصغرى الجزئية SEM-PLS لتقييم الفرضيات التي يحركها نموذج البحث الخاص بالدراسة إجراء تحقيق أعمق في تعديل دور أنماط الإنفاق الاستهلاكي في العلاقة بين الشراء الآن والدفع لاحقًا (خيار الدفع) وقرار الشراء الاستهلاكي.

النتائج:

أظهرت النتائج أن خيار الشراء الآن والدفع لاحقًا له تأثير إيجابي كبير على قرار شراء المستهلك (خيار الشراء الان والدفع لاحقا وقرار شراء المستهلك). جميع الميزات التي تمت دراستها لخيار الدفع "الشراء الآن والدفع لاحقًا" (التوافر والمرونة والراحة) وجدت أن لها تأثيرًا قويًا وكبيرًا على قرار الشراء لدى المستهلك، وهو اكتشاف آخر مهم للدراسة، وهو أن أنماط الإنفاق الاستهلاكي لن تقوم بالدور المعدل في العلاقة بين الشراء الآن خيار الدفع لاحقًا وأنماط الإنفاق الاستهلاكي.

التأثير الإجمالي لخيار الدفع "الشراء الآن والدفع لاحقًا" (BNPL) على قرارات الشراء لدى العملاء إيجابيًا وقويًا. تقدم شركات BNPL كمقرض التمويل الاستهلاكي الذي يؤثر على قرار المستهلك بالشراء. إن شركات التمويل الاستهلاكي التي يراها العملاء تؤثر بشكل إيجابي على قرار الشراء للتمويل. وقد وجد أن تأثير خيار الدفع BNPL على قرارات الشراء لدى المستهلكين له تأثير إيجابي كبير. وهذا من شأنه أن يشير إلى أن المستهلكين، وخاصة في سياق الأسواق الناشئة، ينظرون بشكل إيجابي إلى توفر BNPL كخيار للدفع أثناء عملية التسوق.

من المتوقع أن تكون BNPL خيارًا بديلاً للدفع، خاصة بالنسبة للمستهلكين الشباب الذين يشكلون جزءًا كبيرًا من حصة السوق والذين لديهم ميل إلى عالم التجارة الإلكترونية كجزء من نمط حياتهم اليومي. يُنظر إلى BNPL أيضًا على أنها فرصة عظيمة للمستهلكين للحصول على منتجات لم يتمكنوا من دفعها بالكامل في ذلك الوقت، وبالتالي، يمكن لخيار الدفع هذا أن ينقذ المستهلكين من سلوك الشراء المندفع أو العواقب السيئة في حالتهم المالية.

الكلمات المفتاحية : خيار الشراء الان و الدفع لاحقا ، شركات التمويل الاستهلاكي ، قرار شراء المستهلك ، أنماط الانفاق الاستهلاكي ، الدور المعدل ،قرار الشراء بالتمويل.

1.1 Introduction:

Consumer credit has been in existence for at least 5000 years, with lending dating back to the Sumerian civilization around 3000 years ago, primarily for agricultural purposes. (Tzili, abdellaoui, 2020).

In recent years, 'buy now, pay later' (BNPL) services have gained popularity among customers and have seen increased acceptance due to the convenience they offer borrowers. BNPL services allow consumers to make purchases by paying a portion of the price at the time of the transaction and the remaining amount to the provider through installments. Usage of these services is typically through a mobile app, with repayments deducted from the customer's linked debit or credit card. (Fisher, holland, west, 2021).

Some well-known BNPL services permit borrowing amounts between EGP 10,000 and EGP 150,000 with no charges if

installments are made on time, with the possibility of late payment fees if not. Other BNPL services cater to customers with higher scores, allowing them to borrow larger amounts, usually requiring an initial or monthly fee. (research and markets,2023)

While BNPL is mainly used for online transactions, certain providers focus on increasing its usage for in-store purchases made through the provider's app and scannable barcode or QR code. Recent developments include BNPL services issuing virtual cards via a mobile app for in-store and online transactions at businesses accepting card payments. (Fisher, holland, west, 2021).

The increasing use of BNPL services indicates that more consumers view them as a convenient and economical way to make purchases. Both online and in-store merchants are more widely accepting BNPL payments, with the aim of boosting sales and retaining customers. (Tzili, abdellaoui, 2020).

Merchants usually incur transaction fees when they accept BNPL payments, but they may find it worthwhile if it helps them generate more sales and stay competitive. When a customer uses BNPL, the supplier pays the full purchase amount to the merchant after deducting any upfront costs. Some BNPL providers not only facilitate payments but also offer marketing and additional services to merchants.(west , etal., 2021).

In recent years, the BNPL industry appears to have become more competitive, as numerous new providers have entered the market and both new and existing players have expanded their range of business models and services. The growth of the BNPL sector demonstrates the changing landscape of the consumer payments market, supported by mobile technology and forward-thinking entrepreneurs. (insiders intelligence, 2021).

The financial uncertainty in the current retail environment has led to the emergence of a new financing option for consumers known as the buy now, pay later (BNPL) industry. This industry is rapidly expanding and is being compared to credit cards and traditional lending methods such as direct installments.

It is predicted that BNPL payments in Egypt will experience a significant annual growth of almost 132.8% and reach US$ 434.7 million in 2022. (research and markets,2023)

The usage of BNPL payments is projected to increase consistently in the coming years, with a compound annual growth rate of 55.9% expected from 2022 to 2027. In Egypt, the Gross Merchandise Value for BNPL is set to rise from US$ 186.6 million in 2021 to a projected US$ 6235.2 million by 2027. (Research and markets. 2022)

In recent decades, the relaxation of financial regulations has led to greater competition and improved access to credit, giving consumers

a wide range of options for financing and investment vehicles. The technological progress of the 21st century aligns with the desire of individuals, especially millennials and Generation Z consumers, for convenient accessibility. (Ridley ,2019).

BNPL fintech companies have staked their claim over traditional credit card issuers due to the swift increase in popularity of BNPL platforms, which reflects consumers' favorable view of the convenience and cost efficiency of purchases in comparison to the expenses associated with maintaining a credit card. (Reserve Bank of Australia 2021).

In this paper, I explore the popularity of this innovation, explicitly determining the effect of BNPL financial technology (fintech) operations on consumers buying decisions and the role of consumer's spending patterns affecting this relation.

This research builds a foundation for future investigations into policy frameworks and the consumer concerns surrounding BNPLs.

2. research problem:

The problem with the research is that the literature review reveals a rare of studies that measure the impact of buy now pay later payment option on consumer's buying decision through consumer spending patterns as a moderating variable, especially in the Egyptian market which opens the door for the research question:

- How does the buy now-pay later (BNPL) payment options influence consumers' purchasing Decision in additionally testing the moderating role of spending patterns?

3. theoretical frame work:

3.1. buy now pay later as a payment option:

Buy Now, Pay Later (BNPL) is a financial service allowing consumers to buy products and services instantly and pay for them later, either in installments and/or after a certain period of time. (ji etal., 2023).

(Samagnaro etal., 2024) stated that BNPL has made it easy for individuals who have low savings or no savings to spend for their wants and desires, which is an important reason for the developing popularity of this payment option. On the other hand, the rising number of undisciplined spenders has raised concerns regarding the mental peace of the higher authority present in the financial institutions and retailers.

'Buy Now, Pay Later' (BNPL). A brand-new concept started 10 years ago, which allows customers to make a purchase with incremental payments and without any interest. Resellers with the support of a third-party creditor, adds this new system of payments into their checkout process. Nevertheless, a late fee will be asked if the payment is overdue. This system has various

benefits. Indeed, it allows a range of customers to enter the credit market. As a result of this new type of consumers the income of merchants will increase (papikyan & aram, 2023).

BNPL payment option began to replace the traditional installment option such as credit cards we found that about 60% of respondents who use BNPL as a payment or installment option already have a credit card .

The "Buy Now Pay Later" payment option is an emerging trend of digital payment facilities on e-commerce platforms. It became a trend for most of users as we found that 85% of our respondents who use BNPL as a payment option are younger than 40 years old.

This payment option provides a mechanism by which consumers can complete their purchases directly without having to pay them immediately, allowing them to delay the payment. (Juita et al., 2024).

The concept of "Buy Now Pay Later" payment option embraces several conditions, including a specific accrued amount, a postponed payment period, and installments that should be paid regularly within a stipulated period. The purchase amount is usually interest-free or has a low-interest fee compared to banks or other installment payment providers. Online shopping is a form of shopping involving the purchase and sale of goods or services through the internet. (Juita et al., 2024).

This method presents both opportunities and challenges for businesses as well as consumers. Through online shopping, a firm can reach a wider market segment compared to opening a physical store. On the other hand, an online shopping system eliminates some conventional shopping attributes, such as direct product observation, which sometimes underlie consumer decision-making postponement. (Juita et al., 2024).

Understanding the mechanisms of Buy Now Pay Later payment option (BNPL) is fundamental to explore the impact of BNPL payment option on consumer buying decisions and the possible moderating role of customers' spending patterns impeccably define BNPL as a FinTech credit product that is offered at the point of sale, providing consumers the option to pay for their purchase at a later date in one or more interest-free instalments and helping achieve the consumption smoothing objective. (Kenney et al., 2022). Based on most of the existing literature, we hypothesized that:

There is a significant positive impact of buy now pay later payment option (BNPL) on consumer purchasing decision.

Three sub-hypotheses emanating from the first hypothesis as follows:

(H 1.1) there is a significant impact of the availability of buy now pay later payment option on consumer purchasing decision.

(H 1.2) there is a significant impact of the flexibility of buy now pay later payment option on consumer purchasing decision.

(H 1.3) there is a significant impact of the convenience of buy now pay later payment option on consumer purchasing decision.

3.2. consumer buying decision

The physiological, psychological, social, and environmental forces that enable or prevent an individual from buying something are referred to as "consumer buying decisions." They highlight how the understanding of consumer behavior and models of purchase decision behavior impacts advertising effectiveness. For advertising to be effective, a marketer must comprehend the possible responses of consumers to advertising: purchase or non-purchase (Juita et al., 2024).

For instance, the possible purchase decisions may include full price, short-price, brand change, or no purchase. A marketer attempts to influence each kind of decision. These responses and their determinants depend on the characteristics of the individuals being addressed, advertisements, products, diverse social and environmental circumstances, and the purchase situation. (Juita et al., 2024)

(miranda, L., 2018) and (jain,2019). stated that the goal of a marketer is to rectify the willingness to buy or reject a proffered alternative. Nevertheless, consumers tend to sort out or refuse

proffered rewards, values, services, or benefits that have little or no significance for them. The attention to looking for information, especially other than publicity, that strengthens a developing reluctance to a prescribed stimulus is termed "defensive search," while a stumble at the notion of a better match than that now wielded is termed "oppositional choice." Anxiety, annoyance, and concern are some psychological responses triggered by unsuccessful demand for information about a product that lacks consumer comprehension, post-purchase dissatisfaction subsequent to product scrutiny, and brand non-remorse following a better brand domineering.

Consumer buying decision process is the steps followed by consumers during their purchasing. This process varies due to the influence of various factors, classified based on internal and external. Internal factors include motivation, perception, personality, attitude and learning of a consumer. External factors include social settings, culture, media and economic variable. Influence of these factors depends on the demographic profile of the consumer like gender, age, education, occupation and income. Amongst these features of the consumer the most important is the gender. The rationality about buying habit will vary between the gender. (Dominici et al ,2021).

Understanding consumers' purchasing decisions and spending patterns plays a core role in marketing research. Modern

marketing studies have experienced significant developments throughout the 20th century, reflecting how markets have evolved. Twentieth-century marketing enjoys significant changes in marketing paradigms, from product-based to production-based, and then to consumer-oriented marketing. (ridwan , 2022)

3.3 consumer spending patterns :

Consumer purchasing patterns and spending behavior are intriguing. A business manager's seemingly difficult activity of forecasting consumer behavior depends on distinctive individualities, the characteristic trait of selling things. The concept of human wants is boundless, which stretches the requirement curve for the product to infinity. Each consumer has different tastes and preferences.(Thøgersen, 2021)

Spending patterns generally represent the habits or tendencies exhibited by consumers in their spending, such as a specific model or general trend in managing their finances. In exploring the spending patterns of consumers, aspects such as credit card ownership, savings, budgeting and other bills are relevant to the understanding of how these patterns play a role with BNPL that also indicates the level of trust and risk in using BNPL as a payment option. .(yang,2016).

(jain,2019). Also stated that Credit card ownership is associated with the level of spending, where consumers with credit cards are

more likely to spend compared to cash users and also users of other electronic or digital payment option. Having credit cards could indicate that consumers are familiar with installment payment options like the instrument of BNPL that usually becomes an option for e-retailers to increase their sales conversion or to enhance consumer purchase intention

Budgeting and spending limit are important in consumers' spending patterns plan to avoid unwanted debts and over limit spending by setting their monthly expenses and sticking to it. Meanwhile, presence of savings could indicate that consumers are concerned with their finances and assets, which could possibly act as a hedging option whenever they are exposed to potential payment risk (Guttman-Kenney et al., 2022).

Understanding consumer spending is of general interest in various research fields, including economics, social sciences, and marketing. The direct focus, however, is on market-wide patterns of consumers' private spending on common products in the retail market (Kooti et al., 2015).

According to (Matsui et al., 2020). Consumer spending is considered an important benchmark of the economic health of a society, and examining the patterns with which people spend money can provide useful information for economic forecasting and other applications such as urban development and planning.

Consumers could take actions to maintain living standards in the face of such pressures, both in terms of changing consumption priorities and mechanisms deployed to finance ongoing expenditure. Similarly, they want to identify in detail the channels through which income changes are transmitted – both in terms of adjusting to permanent changes and the particular indirect influences of other variables on the consumption process. (Kooti et al., 2015).

Based on the existing literature, we hypothesized that:

Characteristics of buy now pay later payment option (BNPL) (availability , flexibility , convenience) positively affect consumer purchasing decision moderated by the effect of consumer's spending patterns.

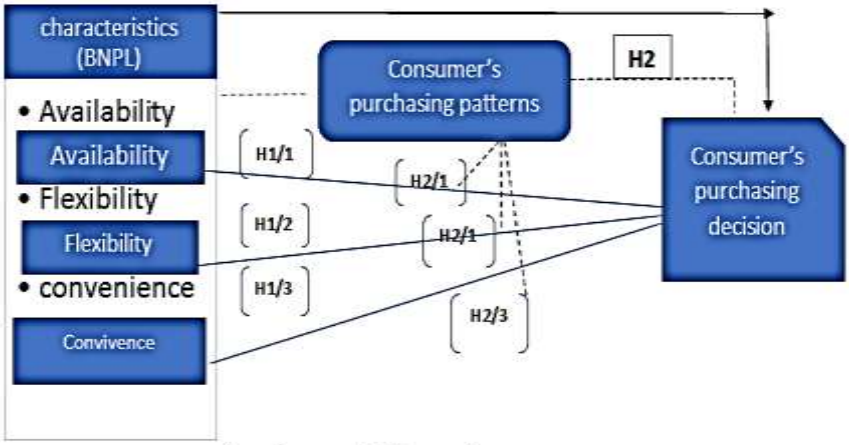

figure 1 : conceptual framework

4. Data collection and sample:

In this study, the post-positive viewpoint was utilized to assess a model while collecting data using the questionnaire approach. As a result, this inquiry employed snow-ball probability sampling, especially the purposive sample technique. The data were collected from customers who are using buy now pay later as a payment or installment option, the whole population was the users of buy now pay later payment option and a random sample of 385 active users of BNPL was drawn , those were an active customers of the leading BNPL companies in the Egyptian market , response were collected through written printed questionnaires and online surveys. The sample size (385 participants) was computerized and evaluated after the act of huge numbers. A questionnaire was used to gather information, and each attitude item was then analyzed using a Likert scale with a range of five points, from strongly disagree (1) to agree (5). We collected 240 responses, and the data gathering lasted about four months (from January 2024 to April 2024). The statistical package for social sciences (SPSS V.29) and (SmartPLS 3) for Structural Equation Modelling- Partial Least Squares (SEM-PLS) analysis were used to conduct the data analysis. As shown in Table 1, earlier research was considered while determining the measurements of the variables included and the number of items. The study involved three sorts of

variables: the buy now pay later payment option (BNPL) as the independent variable , consumer buying decision (CBD) as the dependent variable and consumer spending patterns (CSP) as the moderating variable. The responses were graded on a Likert scale of five points, and the questions were created and amended using literature as a guide.

Variables	Number	References
Buy now pay later payment option. **<u>Sub variables</u>** **1- availability** **2- flexibility** **3- convenience**		**(Sengupta, 2022; Relija etal., 2023; Akana, 2022; Alvarez, 2021; Fook etal., 2020; Hjorthal, & Grotan, 2021; Berg etal., 2023; Anthony etal., Soni, 2023; Di Maggio etal., 2022; Vietha & Putri, 2022; Pratika etal., 2021)**
Consumer buying decision		**(Puspitasari etal., 2018; Qalati etal., 2019; Zhafira etal., 2018; Omar & Atteya, 2020; Sengupta, 2022; Anurag & Jitesh, 2019; Alamgir etal., 2011).**
Spending patterns		**(De & Pradhan, 2020; Parker etal., 2022; Castner & Mabli, 2010; Jang etal., 2016; Di Maggio etal., 2022; Atkinson & hayes, 2010 Castner & Mabli, 2010)**

The survey program's data was collected, processed, and input into SPSS. After that, the data was cleaned by removing inaccurate responses, flawed surveys, or data manipulation due to miscommunication or lack of attention. For the incomplete submissions, the fields were left blank.

5. Research Methodology:

Firstly, descriptive analysis and correlation analysis were carried out using SPSS V.29 and (SmartPLS 3) for Structural Equation Modelling- Partial Least Squares (SEM-PLS) analysis was performed to assess the hypotheses driven by the study's research model. Structural equation modeling entails using statistical methods that simultaneously evaluate many variables, allowing the researcher to include unobservable factors that are quantified indirectly through indicator variables (Hair et al., 2017). The PLS-SEM model was examined and evaluated in two steps: reviewing the measurement model and assessing the structural model.

This was done to check the measurements' validity and reliability before concluding the links between the constructs. Harman's single-factor test was performed to discover common method bias (CMB), where the first component was found to explain just 42.852% of governmental banks and 23.533% of nongovernmental banks of the total variance. Because the numbers were

less than 50%, it is reasonable to conclude that the CMB problem was not identified (Podsakoff et al., 2003). Furthermore, the VIF values were equal to or less than 3.9, indicating that this issue did not exist (Kock, 2015).

5.1. Descriptive Statistics and Correlations:

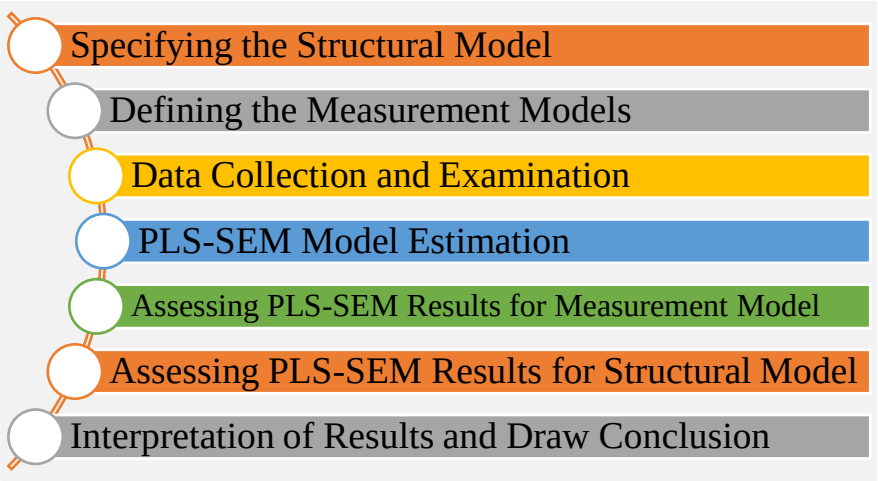

Fig. 4.8: PLS-SEM Systematic Procedures
Source: Hair et al. (2017)

4.4 Measurement Model Assessment in PLS-SEM

The measurement model assessment in Partial Least Squares Structural Equation Modeling (PLS-SEM) is pivotal for ensuring the reliability and validity of the constructs before examining the structural relationships (Fig. 4.9). It validates that the constructs measure what they are intended to measure and that the indicators associated with each construct effectively capture its essence. This section details the rigorous evaluation of the measurement model conducted for this study. The study of the reflective measurement models in PLS-SEM comprises examining the internal consistency reliability, convergent validity

and discriminant validity. Adapted from past study studies, Table 4.10 shows the rules of assessing and finalizing the model (Hair et al., 2011; Nachtigall et al., 2003; Xiong et al., 2015; Garson, 2016). Once the reliability and validity of the measurement model have been proven, the structural model will be assessed. The next subsections will explore the reliability and validity of the measurement model.

Table 4.10: Measurement Model Assessment Rules

Evaluation Items	Measurement Items	Fitting Criteria	
		Cut off	***Preferable***
Reliability Assessment	Cronbach's Alpha, rho_A, Composite Reliability	> 0.60	> 0.70
Convergent Validity	Indicator Loadings	> 0.40	> 0.70
	Average Variance Extracted	> 0.40	> 0.50
Discriminant Validity	HTMT	< 1	<0.9
Source: Researcher's Development			

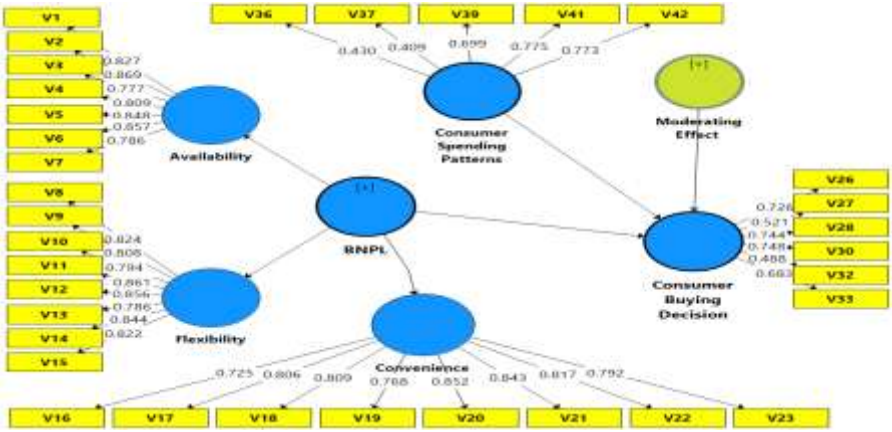

Fig. 4.9: Measurement model

4.4.1 Reliability Assessment

Internal consistency reliability explores whether all indicators related with a concept properly measure it (Pallant, 2010). There are numerous techniques to test internal consistency. Cronbach's alpha is the traditional measure provided a preliminary assessment of internal consistency among the indicators. Cronbach's alpha estimates the average correlation between all indicators that belong to the same construct. The usual reliability value is 0.7, while values larger than 0.6 are also acceptable (Fornell and Larcker, 1981; Hair et al., 2017; Taber, 2018). All values of Cronbach's alpha were accepted as they were above the 0.6 threshold and were ranged from (0.614) for Consumer Spending Patterns to (0.945) for BNPL. These results were shown in Table 4.11 and Fig. 4.10.

Table 4.11: Reliability of measurement model analysis

Construct	Cronbach's Alpha	rho_A	Composite Reliability
First Order Constructs			
Availability	0.922	0.924	0.937
Flexibility	0.933	0.934	0.945
Convenience	0.921	0.921	0.935
Consumer Buying Decision	0.736	0.765	0.819
Consumer Spending Patterns	0.614	0.67	0.763
Higher Order Construct			
BNPL	0.945	0.945	0.95
Remark: Internal Reliability consistency attained			
Source: SmartPLS 3 Software			

Despite its popularity, Cronbach's alpha has been criticized for assuming that all indicators have equal outer loadings (Hair et al., 2017), and that the number of indicators influences Cronbach's alpha calculation in that fewer items produce lower values, particularly in scales with fewer than ten items (Pallant, 2010, Hair et al., 2017). Due to Cronbach's alpha's limitations, researchers are recommended to apply alternate measures of internal consistency, such as Rho_A and composite reliability (CR), which are a more robust measure that accounts for different indicator loadings.

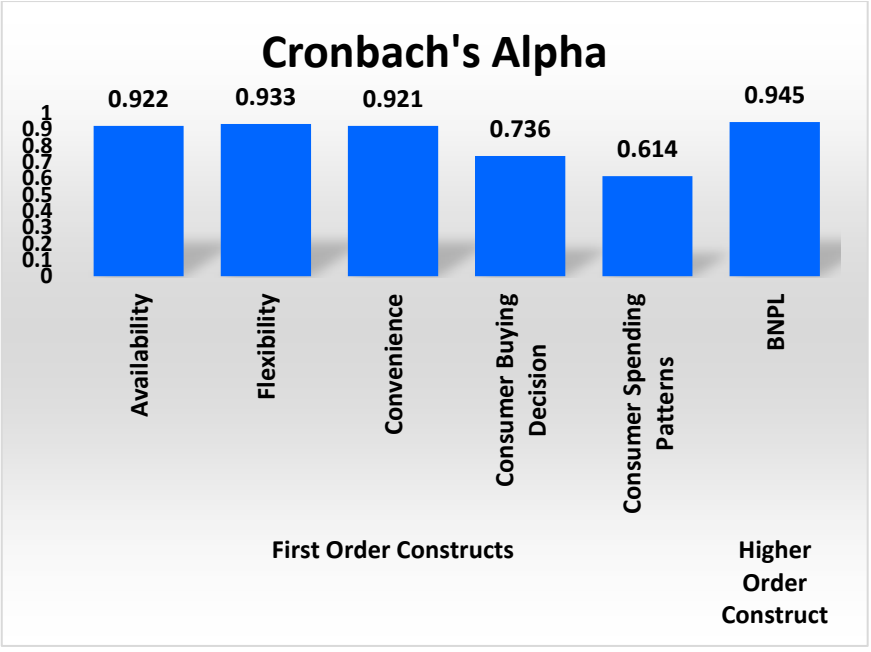

Fig. 4.10: Cronbach's Alpha

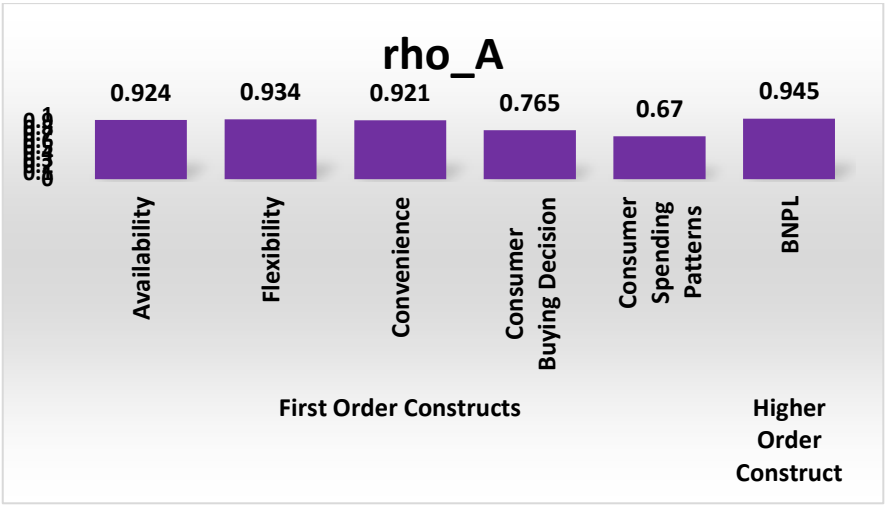

Fig. 4.11: rho_A

All values of rho_A were accepted as they were above the 0.6 threshold and were ranged from (0.67) for Consumer Spending Patterns to (0.945) for BNPL. These results were shown in Table 4.11 and Fig. 4.11. Composite Reliability is a measure of the internal consistency or reliability of a set of items or indicators in a construct. It is a more robust measure compared to Cronbach's Alpha, as it takes into account the factor loadings of the items and does not affected by small number of items within the construct. The Composite Reliability values range from 0 to 1, with higher values indicating greater reliability. A commonly accepted threshold for CR is 0.7 or higher, although values above 0.6 are also considered acceptable. In the context of our study, the results shown in Table 4.11 and Fig. 4.12 indicated that the

Composite Reliability values for the constructs ranged from 0.763 for Consumer Spending Patterns to 0.95 for BNPL, all of which are above the 0.6 threshold. This suggests that the items within each construct are internally consistent and reliable measures of the underlying concepts.

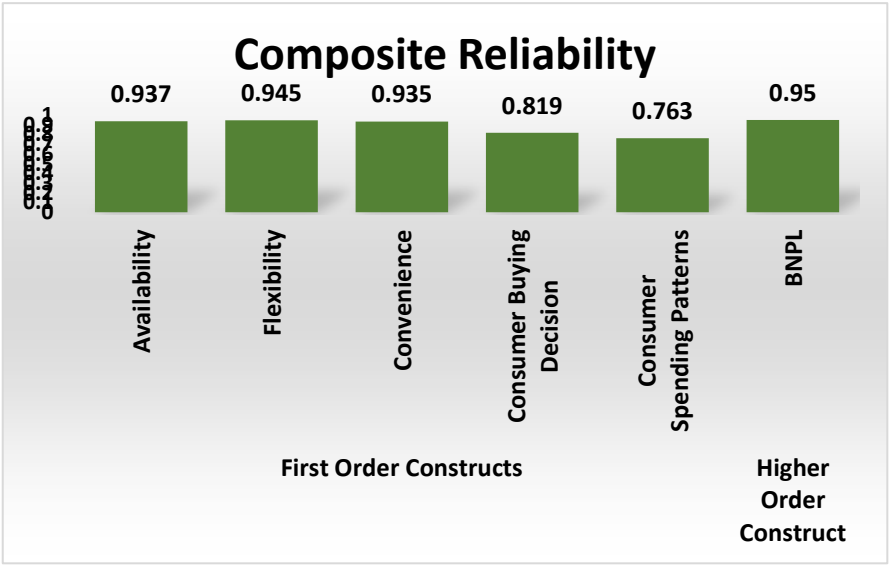

Fig. 4.12: Composite reliability

4.4.2 Convergent Validity Assessment

Convergent validity analyzes the connection between variables that measure a single notion. Reflective assessment models' convergent validity is generally examined using the item's outer loadings and the average variance extracted (AVE).

Table 4.12: Convergent validity analysis (AVE)

Construct	Average Variance Extracted (AVE)
First Order Constructs	
Availability	0.681
Flexibility	0.681
Convenience	0.644
Consumer Buying Decision	0.436
Consumer Spending Patterns	0.408
Higher Order Construct	
BNPL	0.452
Remark: Convergent validity attained through AVE values	
Source: SmartPLS 3 Software	

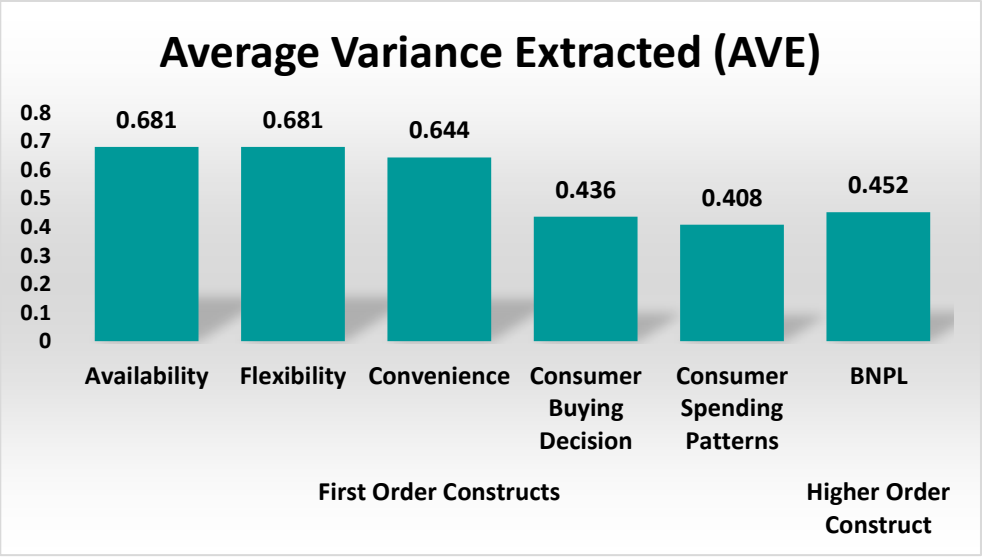

Fig. 4.13: AVE values

The AVE is a widely used measure for measuring convergent validity; it is the grand mean of the squared loadings of the indicators assessing the idea. The acknowledged values of AVE are those higher than 0.5; however, values less than 0.5 and above 0.4 are acceptable as long as the values of CR are larger than 0.6 (Fornell and Larcker, 1981). Table 4.12 proved convergent validity using AVE in accordance with earlier criteria.

Table 4.13: Item Loading

Item <- Construct	Loading	t-value	P-value	95% CI for Loading	
				LL	UL
V1 <- Availability	0.827	28.189	<.001	0.762	0.877
V2 <- Availability	0.869	42.171	<.001	0.823	0.906
V3 <- Availability	0.777	18.753	<.001	0.687	0.849
V4 <- Availability	0.809	24.169	<.001	0.728	0.863
V5 <- Availability	0.848	31.902	<.001	0.789	0.89
V6 <- Availability	0.857	38.335	<.001	0.803	0.893
V7 <- Availability	0.786	24.92	<.001	0.714	0.838
V8 <- Flexibility	0.824	29.631	<.001	0.764	0.873
V9 <- Flexibility	0.808	25.664	<.001	0.727	0.857
V10 <- Flexibility	0.794	17.645	<.001	0.679	0.864
V11 <- Flexibility	0.861	29.783	<.001	0.795	0.91
V12 <- Flexibility	0.856	29.693	<.001	0.784	0.9
V13 <- Flexibility	0.786	18.798	<.001	0.69	0.855
V14 <- Flexibility	0.844	30.076	<.001	0.779	0.892
V15 <- Flexibility	0.822	25.907	<.001	0.751	0.875
V16 <- Convenience	0.725	15.311	<.001	0.616	0.803
V17 <- Convenience	0.806	20.968	<.001	0.715	0.87

V18 <- Convenience	0.809	18.73	<.001	0.697	0.876
V19 <- Convenience	0.768	18.625	<.001	0.672	0.837
V20 <- Convenience	0.852	31.056	<.001	0.786	0.895
V21 <- Convenience	0.843	30.975	<.001	0.783	0.888
V22 <- Convenience	0.817	26.593	<.001	0.74	0.864
V23 <- Convenience	0.792	22.716	<.001	0.712	0.851
V24 <- Consumer Buying Decision	Deleted				
V25 <- Consumer Buying Decision	Deleted				
V26 <- Consumer Buying Decision	0.726	9.64	<.001	0.532	0.83
V27 <- Consumer Buying Decision	0.521	4.073	<.001	0.23	0.726
V28 <- Consumer Buying Decision	0.744	14.119	<.001	0.611	0.821
V29 <- Consumer Buying Decision	Deleted				
V30 <- Consumer Buying Decision	0.748	14.251	0	0.614	0.828
V31 <- Consumer Buying Decision	Deleted				
V32 <- Consumer Buying Decision	0.488	4.099	<.001	0.223	0.685
V33 <- Consumer Buying Decision	0.683	9.1	<.001	0.511	0.799
V34 <- Consumer Spending Patterns	Deleted				
V35 <- Consumer Spending Patterns	Deleted				
V36 <- Consumer Spending Patterns	0.43	3.352	<.001	0.12	0.627
V37 <- Consumer Spending Patterns	0.409	3.433	<.001	0.135	0.609
V38 <- Consumer Spending Patterns	Deleted				
V39 <- Consumer Spending Patterns	0.699	8.32	0	0.479	0.812
V40 <- Consumer Spending Patterns	Deleted				
V41 <- Consumer Spending Patterns	0.775	15.882	<.001	0.657	0.848
V42 <- Consumer Spending Patterns	0.773	12.421	<.001	0.624	0.866
Remark: Convergent validity attained through item loadings					
Source: SmartPLS 3 Software					

CI= Confidence Interval; LL= lower limit; UL= upper limit.

Item loading is another measure of validity; the outer loadings required are 0.70 (Hair et al., 2014, 2017). The rationale for specifying an outside loading of at least 0.70 is because the square of a standardized item's outside loadings, also known as communality, reveals how much variance is shared between the construct and item. The square of 0.70 will be nearly equal to 0.50. This means that if an item has an outside loading of 0.70, the construct may explain approximately half of its variance (Hair et al., 2017). However, the authors indicated that if the outer loading varies between 0.4 and 0.7, we explore the impact of indicator deletion on reliability and validity measurements. If deletion does not elevate the measure(s) over the threshold, we should maintain the reflected item. Eight items were eliminated from the model, since the associated loadings were below 0.4, and all other elements in Table 4.13 were statistically significant at the 5% level of significance and fulfill the specified constraints, consequently, they were retained as in figure 4.9, 4.14 - 4.16.

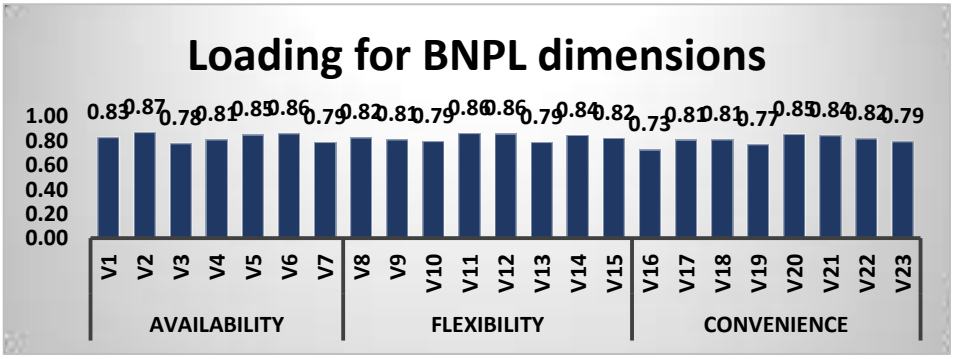

Fig. 4.14: Item loadings for BNPL dimensions

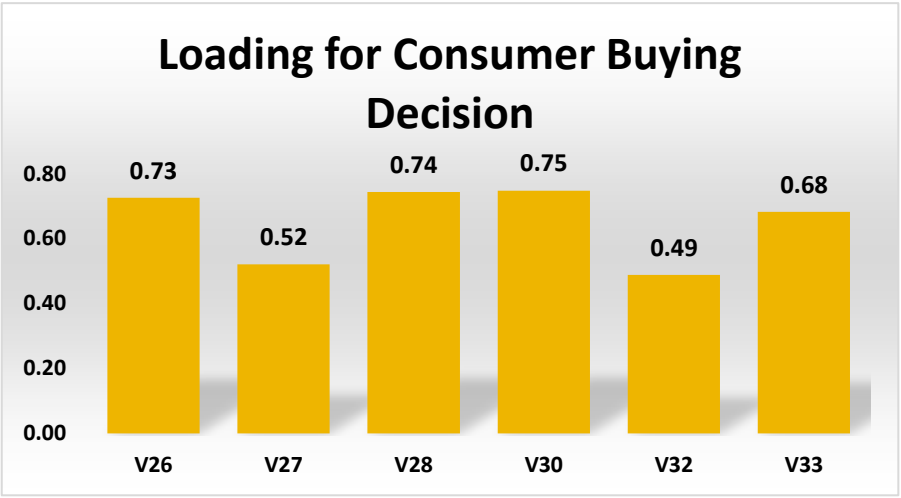

Fig. 4.15: Item loadings for Consumer Buying Decision

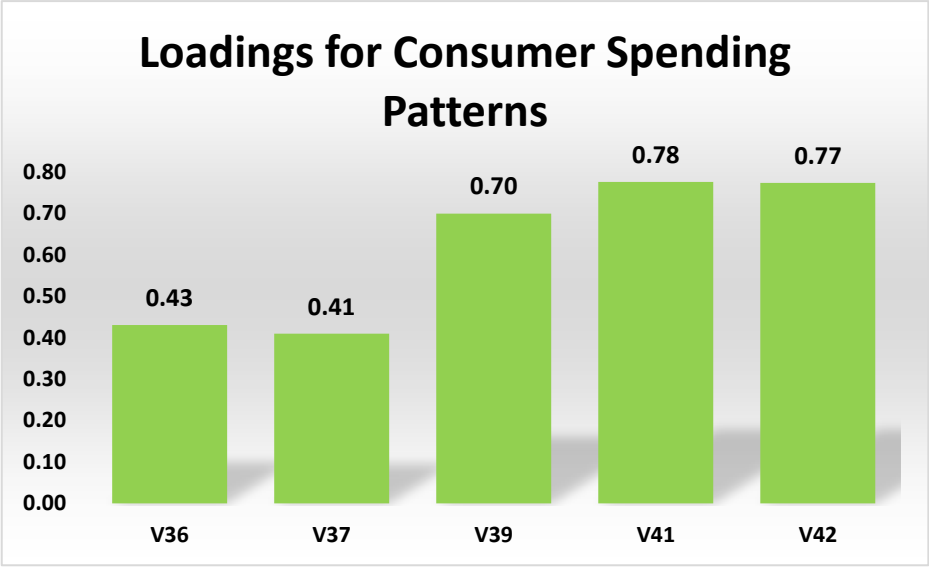

Fig. 4.16: Item loadings for Consumer Spending Patterns

4.4.3 Discriminant Validity Assessment

After establishing the convergent validity, it is time to examine the discriminant validity. Discriminant validity examines how much a construct differs from other constructs. Discriminant validity is usually established by examining cross-loadings or using Fornell-Larcker criterion. By examining the cross-loadings, the researcher ensures that the indicator only loads highly on the construct it is associated with. It is common to have an indicator loading to different constructs; however, it is crucial that the indicator's loading on its associated construct is higher than its correlation with other constructs. The results of cross loadings in Table 4.14 showed that each item loading is associated with its constructs and is higher than the loading that of the other items in the same column, as well as higher than that of the other constructs in the same row. These results indicated that the discriminant validity is well established.

Table 4.14: Discriminant validity (Cross-loadings)

	Availability	Flexibility	Convenience	Consumer Buying Decision	Consumer Spending Patterns
V1	0.827	0.407	0.411	0.411	0.324
V2	0.869	0.407	0.431	0.377	0.259
V3	0.777	0.326	0.286	0.301	0.354
V4	0.809	0.451	0.436	0.398	0.377
V5	0.848	0.425	0.352	0.32	0.331
V6	0.857	0.451	0.466	0.454	0.351
V7	0.786	0.479	0.43	0.4	0.344
V8	0.49	0.824	0.516	0.393	0.304

V9	0.39	0.808	0.417	0.417	0.322
V10	0.393	0.794	0.351	0.343	0.425
V11	0.42	0.861	0.44	0.399	0.365
V12	0.387	0.856	0.477	0.356	0.322
V13	0.391	0.786	0.465	0.419	0.307
V14	0.433	0.844	0.469	0.399	0.322
V15	0.474	0.822	0.431	0.438	0.346
V16	0.481	0.489	0.725	0.424	0.314
V17	0.359	0.507	0.806	0.413	0.263
V18	0.331	0.364	0.809	0.42	0.274
V19	0.391	0.425	0.768	0.415	0.321
V20	0.411	0.49	0.852	0.518	0.347
V21	0.383	0.38	0.843	0.402	0.201
V22	0.406	0.45	0.817	0.447	0.322
V23	0.378	0.354	0.792	0.47	0.304
V26	0.356	0.395	0.418	0.726	0.308
V27	0.236	0.257	0.321	0.521	0.068
V28	0.379	0.337	0.412	0.744	0.393
V30	0.31	0.305	0.391	0.748	0.414
V32	0.2	0.255	0.25	0.488	0.282
V33	0.318	0.342	0.359	0.683	0.381
V36	0.226	0.165	0.131	0.17	0.43
V37	0.149	0.22	0.152	0.243	0.409
V39	0.218	0.261	0.308	0.338	0.699
V41	0.213	0.252	0.21	0.353	0.775
V42	0.444	0.369	0.317	0.397	0.773
Remark: **Discriminant validity through Cross-loadings attained**					
Source: **SmartPLS 3 Software**					

Fornell-Larcker criterion ensures that the indicator only loads highly on the construct it is associated with. When using the Fornell-Larcker criterion, the square root of AVE is compared

against the construct's correlations. The square root of the construct's AVE should be higher than any of the construct's correlations with other constructs. Following these guides, the discriminant validity was constructed since the square root values of the construct's AVE that has been given on the diagonal elements were higher than any of the construct's correlations with other constructs as shown in table 4.15.

Table 4.15: Discriminant validity (Fornell-Larcker criterion)

	Availability	Consumer Buying Decision	Consumer Spending Patterns	Convenience	Flexibility
Availability	**0.825**				
Consumer Buying Decision	0.464	**0.66**			
Consumer Spending Patterns	0.404	0.49	**0.638**		
Convenience	0.491	0.548	0.367	**0.802**	
Flexibility	0.513	0.48	0.41	0.542	**0.825**
Remark: Discriminant validity through Fornell-Larcker criterion attained					
Source: SmartPLS 3 Software					

Recent study found that using the aforementioned methods maybe an unreliable way to establish discriminant validity. To overcome the shortcoming of cross-loadings and Fornell-Larcker criterion, researchers should assess the hetrotrait-monotrait ratio (HTMT). HTMT is defined as "the ratio of between-trait to within-trait correlations" (Hair et al., 2017). The HTMT value should be smaller than one (Gaskin et al. 2018). Following these principles, the

discriminant validity was established as all of the constructs had HTMT values less than the stated thresholds. Table 4.16 provides the HTMT values for the different constructs.

Table 4.16: Discriminant validity (HTMT ratio)

Construct -> Construct	HTMT	95% CI for HTMT	
		LL	UL
BNPL -> Availability	0.85	0.773	0.909
Consumer Buying Decision -> Availability	0.551	0.378	0.708
Consumer Buying Decision -> BNPL	0.721	0.572	0.84
Consumer Spending Patterns -> Availability	0.531	0.377	0.683
Consumer Spending Patterns -> BNPL	0.618	0.453	0.761
Consumer Spending Patterns -> Consumer Buying Decision	0.688	0.497	0.82
Convenience -> Availability	0.527	0.351	0.676
Convenience -> BNPL	0.887	0.824	0.932
Convenience -> Consumer Buying Decision	0.662	0.484	0.803
Convenience -> Consumer Spending Patterns	0.473	0.295	0.641
Flexibility -> Availability	0.549	0.365	0.719
Flexibility -> BNPL	0.896	0.81	0.955
Flexibility -> Consumer Buying Decision	0.579	0.399	0.713
Flexibility -> Consumer Spending Patterns	0.536	0.347	0.715
Flexibility -> Convenience	0.58	0.391	0.729
Moderating Effect -> Availability	0.239	0.169	0.258
Moderating Effect -> BNPL	0.292	0.228	0.305
Moderating Effect -> Consumer Buying Decision	0.29	0.251	0.282
Moderating Effect -> Consumer Spending Patterns	0.329	0.281	0.328
Moderating Effect -> Convenience	0.236	0.205	0.238
Moderating Effect -> Flexibility	0.25	0.182	0.279
Remark: Discriminant validity through HTMT criterion attained			
Source: SmartPLS 3 Software			

4.5 Descriptive Statistics

Following the verification of the reliability as well as validity of the variables, it is now time to provide some descriptive statistics for the constructs that were chosen, as given in Table 4.17. In addition to that, a number of descriptive data for the items that were researched were compiled and presented in the Table (A.1) that is included in Appendix A. Among them are the mean (M) and standard deviation (SD), both of which were computed and given in Table 4.17.

Table 4.17: Descriptive Statistic

Constructs	N	Mean	SD	CV
Availability	139	3.483	1.089	31.28%
Flexibility	139	3.692	1.061	28.74%
Convenience	139	3.806	0.904	23.76%
BNPL	139	3.660	0.835	22.81%
Consumer Buying Decision	139	3.549	0.777	21.91%
Consumer Spending Patterns	139	3.078	0.798	25.93%
Source: SPSS V. 29 Software				

The descriptive statistics for the independent variable "*BNPL*" $(M = 3.660, SD = 0.835, CV = 22.81\%)$, were the highest compared to that of the dependent variable "*Consumer Buying Decision*" $(M = 3.549, SD = 0.777, CV = 21.91\%)$ and the moderator variable " *Consumer Spending Patterns* " $(M = 3.078, SD = 0.798, CV = 25.93\%)$. Between the dimensions of BNPL, it was indicated that "*Convenience*" dimension has the

highest mean and the lowest variability as $(M = 3.806, SD = 0.904, CV = 23.76\%)$, while "*Availability*" dimension has the lowest mean and the highest variability as $(M = 3.483, SD = 1.089, CV = 31.28\%)$.

4.6 Pearson Correlation

The purpose of conducting the Pearson correlation analysis in this study was to examine the strength and direction of the linear relationships between the variables of interest. By quantifying the degree to which variables are related, this analysis provides insight into the potential associations that may exist, thus addressing specific research objectives and hypotheses. Correlation analysis is a fundamental step in exploratory research, as it helps identify variables that warrant further investigation using more complex statistical methods.

Table 4.18: Correlation between the variables

		Availability	Flexibility	Convenience	BNPL	Consumer Buying Decision	Consumer Spending Patterns
Availability	Correlation	--					
	N	139					
Flexibility	Correlation	.506***	--				
	P-value	0.000					
	N	139	139				

Convenience	Correlation	.481***	.535***	--			
	P-value	0.000	0.000				
	N	139	139	139			
BNPL	Correlation	.823***	.837***	.797***	--		
	P-value	0.000	0.000	0.000			
	N	139	139	139	139		
Consumer Buying Decision	Correlation	.454***	.478***	.550***	.598***	--	
	P-value	0.000	0.000	0.000	0.000		
	N	139	139	139	139	139	
Consumer Spending Patterns	Correlation	.407***	.409***	.358***	.480***	.455***	--
	P-value	0.000	0.000	0.000	0.000	0.000	
	N	139	139	139	139	139	139
Source: SPSS V. 29 Software							

***P<0.001

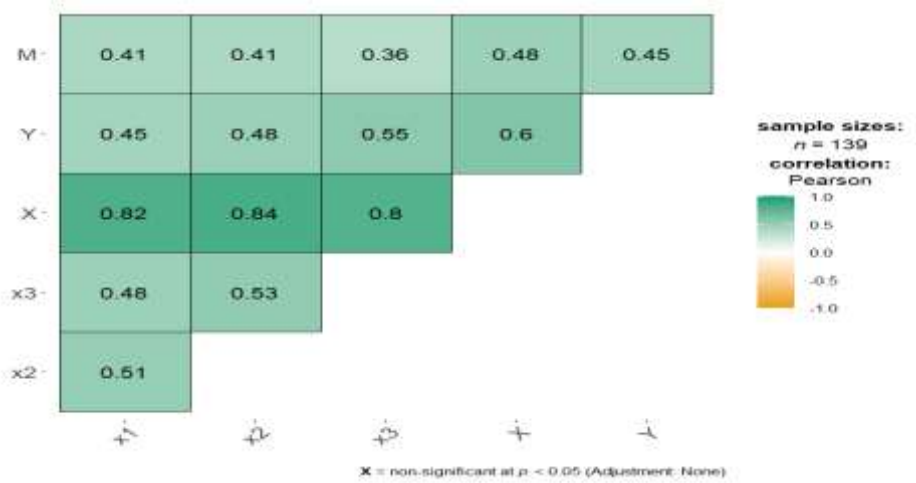

Fig. 4.17: Visulization of the correlation between all variables

The degree of linear dependency that exists between two quantitative variables may be determined by calculating this coefficient, which is a number that ranges from -1 to 1. When the value is negative, it indicates that one variable decreases as the other variable grows, and when the value is positive, it indicates that one variable increases as the other variable increases. The correlation values range from 0 to 0.3, which indicates a week correlation; r values between 0.3 and 0.7 indicate a moderate correlation; and r values between 0.7 and 1 indicate a high or strong correlation (Ratner, 2009; Akoglu, 2018). It was determined that the correlation coefficients that were marked with three stars (***) were significant at a level of 0.001, which corresponds to a confidence level of 99.9%. The correlation coefficients that were marked with two stars (**) were significant at a level of 0.01, which corresponds to a confidence level of 99%. The coefficients that were marked with one star (*) were significant at a level of 0.05, which corresponds to a confidence level of 95%. Finally, the coefficients that were not marked were not significant at 0.05, which means that the P-values were greater than 0.05. Table 4.18 and Figure 4.17 shows the matrix of Pearson correlation coefficients between all variables.

The results indicated that

- **Availability** dimension has a statistical significant positive moderate relationship with both *Consumer Buying Decision* ($r(139) = .454, P < 0.001$) and *Consumer Spending Patterns* since ($r(139) = .407, P < 0.001$).
- **Flexibility** dimension has a statistical significant positive moderate relationship with both *Consumer Buying Decision* ($r(139) = .478, P < 0.001$) and *Consumer Spending Patterns* since ($r(139) = .409, P < 0.001$).
- **Convenience** dimension has a statistical significant positive moderate relationship with both *Consumer Buying Decision* ($r(139) = .550, P < 0.001$) and *Consumer Spending Patterns* since ($r(139) = .358, P < 0.001$).
- **BNPL** construct has a statistical significant positive moderate relationship with both *Consumer Buying Decision* ($r(139) = .598, P < 0.001$) and *Consumer Spending Patterns* since ($r(139) = .480, P < 0.001$).
- Finally, **Consumer Spending Patterns** construct has a statistical significant positive moderate relationship with *Consumer Buying Decision* ($r(139) = .455, P < 0.001$).

4.7 Structural Model Assessment in PLS-SEM

PLS-SEM as a multivariate statistical analysis technique allows for the modeling of complex relationships between observed and latent variables. In the context of our research, PLS-SEM is instrumental in testing the proposed research model and

hypotheses, as it examines the strength and direction of the relationships between variables. Once the reliability, validity, descriptive statistics, and various correlations of the measurement models have been established, it is time to assess the structural model.

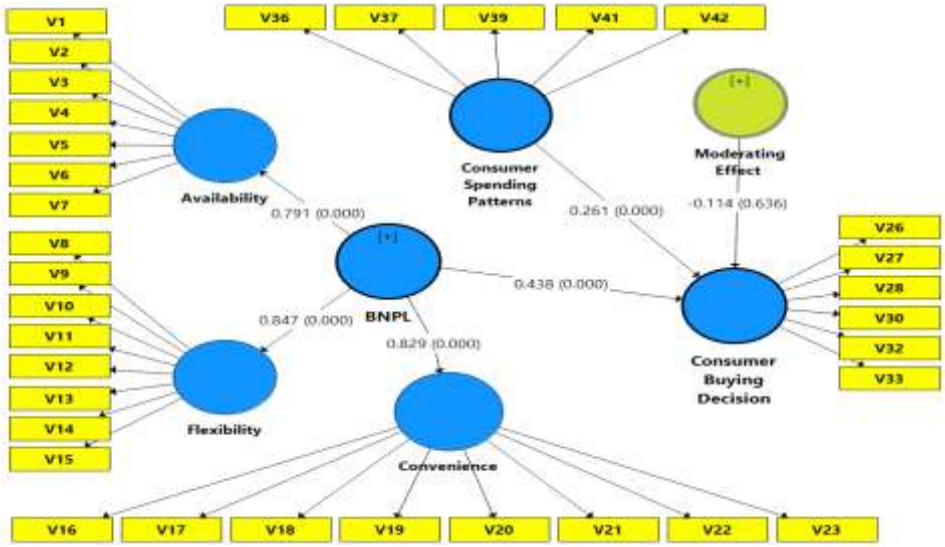

Fig. 4.18: Structural model for the main hypotheses

The structural model, also known as the inner model, describes the relationships between the constructs themselves (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Benitez-Amado, Henseler, & Castillo, 2017). Researchers (Hair, Hult, Ringle, & Sarstedt, 2017; Hair, Ringle, & Sarstedt, 2011; Henseler, Ringle, & Sinkovics, 2009; Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Henseler, Ringle, &

Sarstedt, 2015) have developed standards for evaluating and reporting structural models, including collinearity, path coefficients, coefficient of determination (R^2), Effect Size (f^2), and Predictive Relevance (Q^2).

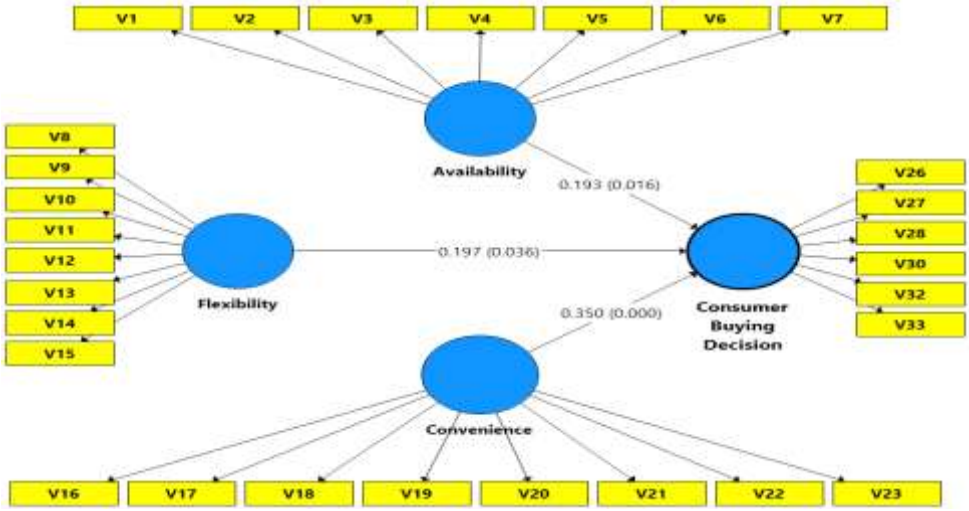

Fig. 4.19: Structural model for the sub-hypotheses

Table 4.19 presents the criteria utilized for evaluating the structural model in this study. Various researches on PLS-SEM (Ringle, Sarstedt, & Straub, 2012; Hair, Sarstedt, Ringle, & Mena, 2012; Ringle, Sarstedt, Mitchell, & Gudergan, 2018; Ali, Rasoolimanesh, Sarstedt, Ringle, & Ryu, 2018; Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Hair Hollingsworth, Randolph, & Chong, 2017) have shown that these criteria are commonly reported by researchers when analyzing the structural model.

Based on these criteria and principles, the results of the evaluations are presented in the subsequent sections.

Table 4.19: Structural Model Assessment Rules

Criteria	Guidelines	References
Collinearity	VIF < 5	(Hair, Hult, Ringle, & Sarstedt, 2017)
Path coefficients	Significance: $p \leq 0.05$	(Hair, Hollingsworth, Randolph, & Chong, 2017)
Coefficient of determination (R^2)	$R^2 < 0.1$, Negligible $R^2 >= 0.1$, Adequate	Falk & Miller (1992)
Effect Size (f^2)	f^2 between 0.02-0.14, small; f^2 between 0.15-0.34, moderate; $f^2 \geq 0.35$, High.	Cohen (1988)
Cross-validated redundancy (Q^2)	Predictive Relevance Using blindfolding $Q^2 > 0$	(Chin, 1998)
Goodness of Fit (GoF)	GoF less than 0.1, no fit; GoF between 0.1 to 0.25, small; GoF between 0.25 to 0.36, medium; GoF greater than 0.36, large.	(Wetzels, Odekerken-Schröder, & Van Oppen, 2009)
Source: Researcher's Development		

4.7.1 Collinearity

Collinearity, or multicollinearity, arises when two variables exhibit a strong correlation, leading to challenges in interpretation (Hair, Hult, Ringle, & Sarstedt, 2017). Multicollinearity, on the other hand, occurs when more than two constructs interact. The variance inflation factor (VIF) can be used to assess collinearity, calculated by dividing one by tolerance, which refers to the variance explained by one independent construct but not by the other independent constructs (Hair, Hult, Ringle, & Sarstedt, 2017; Benitez-Amado,

Henseler, & Castillo, 2017). A VIF value of 5 or higher indicates significant collinearity (Hair, Ringle, & Sarstedt, 2011; Hair, Hult, Ringle, & Sarstedt, 2017). According to Table 4.20, all VIF values were below the cut-off point, suggesting that there is no collinearity among independent constructs.

Table 4.20: Variance inflation factor

Model	Path	VIF
Main	*BNPL -> Consumer Buying Decision*	1.452
	Consumer Spending Patterns -> Consumer Buying Decision	1.296
	Moderating Effect -> Consumer Buying Decision	1.151
SUB	*Availability -> Consumer Buying Decision*	1.492
	Convenience -> Consumer Buying Decision	1.546
	Flexibility -> Consumer Buying Decision	1.592
Remark: NO collinearity problem exists		
Source: SmartPLS 3 Software		

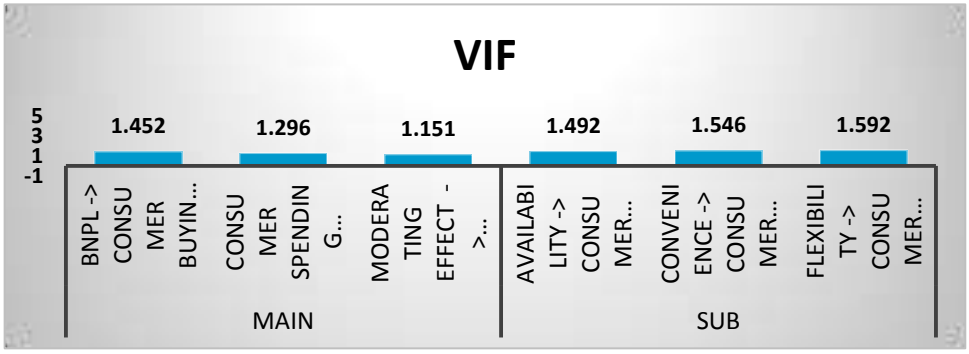

Fig. 4.20: VIF values

4.7.2 Path Coefficients and Hypothesis Testing

Path coefficients indicate the strength and significance of the relationships between latent variables in the model. These coefficients have been estimated using the bootstrapping procedure, with p-values indicating statistical significance. Hair, Sarstedt, Hopkins, and Kuppelwieser (2014) provide a definition of path coefficients as estimations of the relationships between model constructs. These coefficients range from +1 to -1, where +1 indicates a strong positive association, 0 indicates a weak or non-existent link, and -1 indicates a significant negative relationship (Garson, 2016). When assessing PLS paths, it is important for research to present path coefficients along with the significance level, t-value, and p-value (Hair, Sarstedt, Ringle, and Mena, 2012). Hypothesis testing was carried out to determine the signs, sizes, and statistical significance of the calculated path coefficients between the constructs. Higher path coefficients indicate a stronger relationship between the predictor and the predicted variables. To evaluate the significance of path coefficient estimations, p-value thresholds of $p<0.1$, $p<0.05$, $p<0.01$, and $p<0.001$ were used. Subsequently, conclusions were drawn for all hypotheses based on the significance of p-values at the specified conventional levels (Henseler et al., 2009; Hair et al., 2017). Table 4.21 presents the p-values, hypothesis inferences, and confidence levels for each estimate.

Table 4.21: Results of Hypothesis testing

H	Path	B	t-value	P-value	95% BCCI		Remark
					LB	UB	
Direct Effect							
H1	*BNPL -> Consumer Buying Decision*	0.438	5.23	0	0.312	0.608	Supported
H1-1	*Availability -> Consumer Buying Decision*	0.193	2.41	0.016	0.025	0.335	Supported
H1-2	*Flexibility -> Consumer Buying Decision*	0.197	2.094	0.036	0.005	0.378	Supported
H1-3	*Convenience -> Consumer Buying Decision*	0.35	3.686	0	0.148	0.518	Supported
H2	*Consumer Spending Patterns -> Consumer Buying Decision*	0.261	3.76	0	0.12	0.39	Supported
Moderating Effect							
H3	Moderating Effect -> Consumer Buying Decision	-0.114	0.473	0.636	-0.296	0.443	Not Supported
Source: SmartPLS 3 Software							

BCCI=Bias-Corrected Confidence Intervals; LB= Lower Bound; UB=Upper Bound.

The results of hypothesis testing in Table 4.21 and Figures 4.18-19 revealed that:

- *BNPL* yielded a statistical significant positive effect on *Consumer Buying Decision* since ($\beta = 0.438, t = 5.23, P < 0.001$), consequently, the first hypothesis is confirmed.
- *Availability* yielded a statistical significant positive effect on *Consumer Buying Decision* since ($\beta = 0.193, t = 2.41, P < 0.05$), consequently, H1-1 is confirmed.

- *Flexibility* yielded a statistical significant positive effect on *Consumer Buying Decision* since $(\beta = 0.197, t = 2.094, P < 0.05)$, consequently, H1-2 is confirmed.
- *Convenience* yielded a statistical significant positive effect on *Consumer Buying Decision* since $(\beta = 0.35, t = 3.686, P < 0.001)$, consequently, H1-3 is confirmed.
- *Consumer Spending Patterns* yielded a statistical significant positive **DIRECT** effect on *Consumer Buying Decision* since $(\beta = 0.261, t = 3.76, P < 0.001)$, consequently, the second hypothesis is confirmed.
- *Consumer Spending Patterns* **Doesn't** significantly moderate the relationship from BNPL to *Consumer Buying Decision* since $(\beta = -0.114, t = 0.473, P > 0.05)$, consequently, the third hypothesis is confirmed.

The interaction plot in Fig. 4.21 visualizes the moderating effect of "Consumer Spending Patterns" on the relationship between "BNPL" and "Consumer Buying Decision.". The three lines represent different levels of "Consumer Spending Patterns": -1 SD (Low), Mean (Average), and +1 SD (High). The slope of each line indicates the relationship between "BNPL" and "Consumer Buying Decision" at that specific level of "Consumer Spending Patterns.". If the lines are parallel, it suggests no interaction effect. If the lines are not parallel, it indicates a possible interaction effect. In this case, the lines appear to be relatively

parallel, suggesting that the moderating effect of "Consumer Spending Patterns" on the relationship between "BNPL" and "Consumer Buying Decision" is non-existent. Since the hypothesis testing reveals that the moderation effect is not statistically significant at the 0.05 level which confirms the visual interpretation. This means that we cannot confidently conclude that "Consumer Spending Patterns" significantly alters the relationship between "BNPL" and "Consumer Buying Decision.".

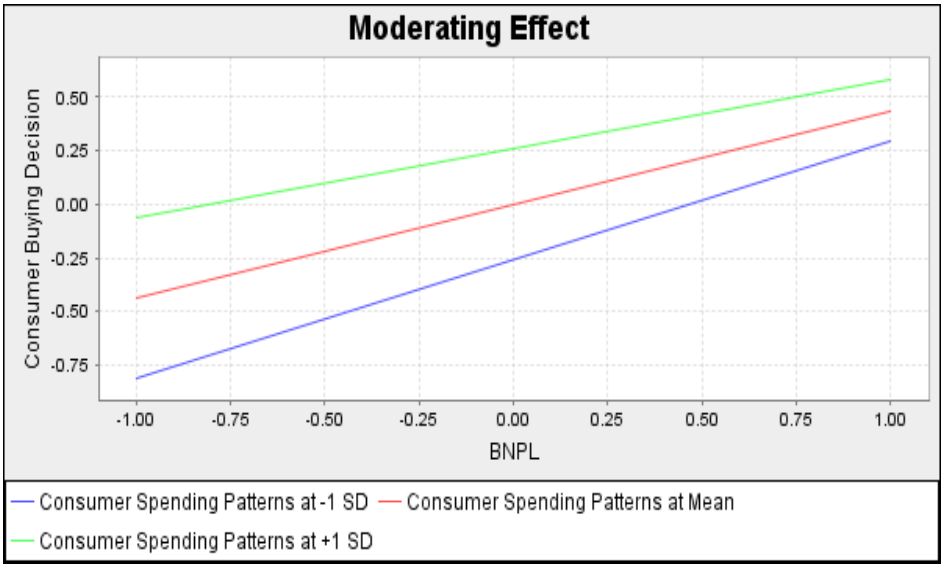

Fig. 4.21: Interaction plot for the moderation effect of consumer spending patterns on the relationship from BNPL to consumer buying decision

4.7.3 Coefficient of Determination

Hair, Sarstedt, Ringle, & Mena (2012) describe the coefficient of determination (R^2) as the impact of independent variables on dependent latent constructs. This metric serves as a measure of quality for structural models (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). The R^2 values can vary between 0 and 1, where 0 signifies no explained variability and 1 denotes a significant explained variance. Researchers have employed various thresholds for the R^2 value. In general, R^2 of 0.10 is considerable (Falk & Miller, 1992). Hair et al. (2011) provided definitions for R^2 values of 0.25, 0.50, or 0.75 as low, moderate, or high in marketing research. Meanwhile, Chin (1998) indicated that R^2 values of 0.19, 0.33, or 0.67 are considered low, moderate, or high in business research.

Table 4.22: R Square values

Model	Construct	R-Squared	t-value	P-value	95% CI for R-Square	
					LL	UL
Main	*Consumer Buying Decision*	0.43	7.175	0	0.373	0.606
SUB	*Consumer Buying Decision*	0.378	5.719	0	0.278	0.537
All values were accepted						
Source: SmartPLS 3 Software						

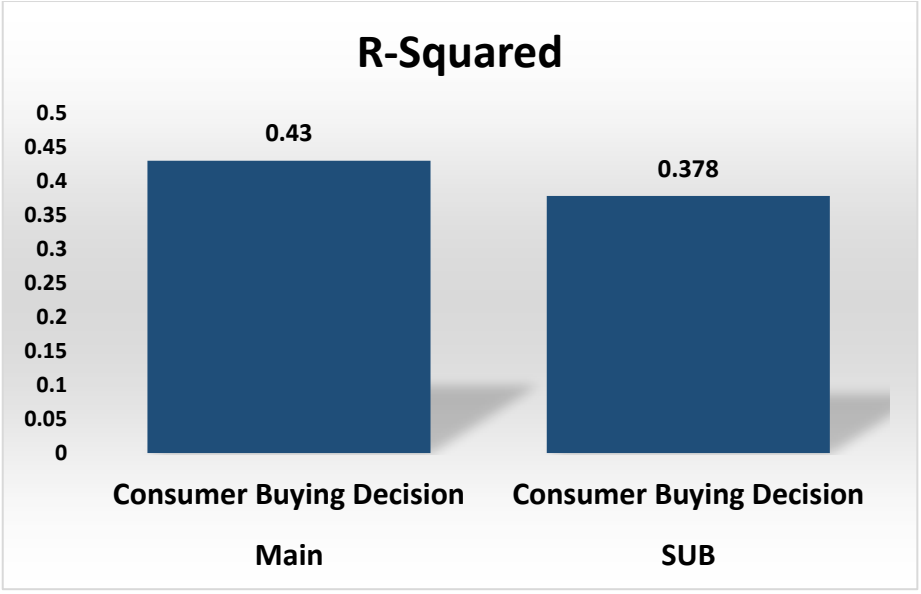

Fig. 4.22: R Square values

The findings in Table 4.22 and Figure 4.22 suggest that approximately 43% of the variation in Consumer Buying Decision can be attributed to the variation in BNPL. Moreover, 38% of the variation in Consumer Buying Decision can be attributed to the variation in BNPL dimensions "Availability, Flexibility, and Convenience.

4.7.4 Effect Size (f^2)

The f^2 effect size indicates how much impact the endogenous construct would have if an exogenous construct was removed from the model. Effect sizes have been calculated to assess the impact of each exogenous variable on the endogenous variables.

These values help in understanding the relative contribution of each predictor in the context of the model.

Table 4.23: f² Effect Size

Model	*Path*	f-Square	*Remark*
Main	*BNPL -> Consumer Buying Decision*	0.232	Moderate
	Consumer Spending Patterns -> Consumer Buying Decision	0.093	Small
	Moderating Effect -> Consumer Buying Decision	0.021	Small
SUB	*Availability -> Consumer Buying Decision*	0.04	Small
	Convenience -> Consumer Buying Decision	0.128	Small
	Flexibility -> Consumer Buying Decision	0.039	Small
All values were accepted			
Source: SmartPLS 3 Software			

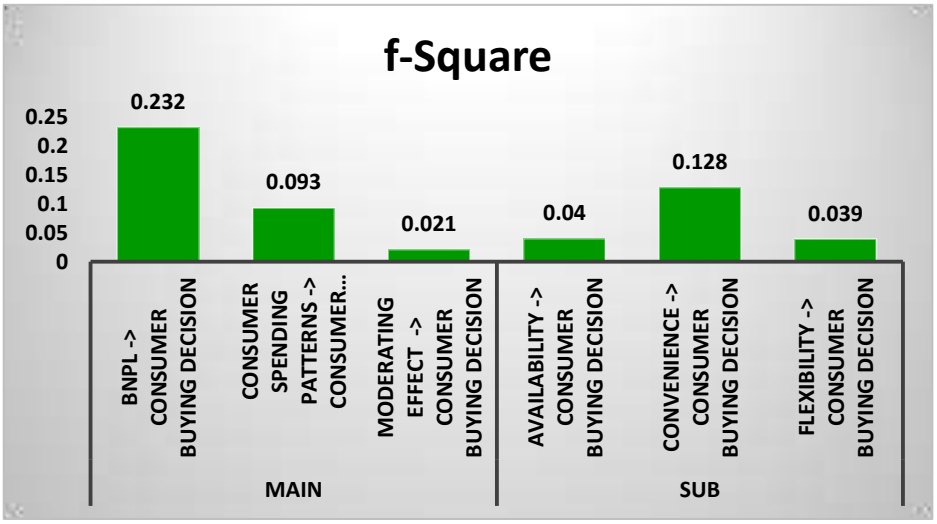

Fig. 4.23: f-square values

A construct is classified as having a small influence if its f^2 value is between 0.02 and 0.14, a medium effect if it is between 0.15 and 0.34, and a high effect if it is above 0.35. A construct with a f^2 value < 0.02 indicates no influence on the endogenous construct (Hair et al., 2017). Table 4.23 shows the f^2 effect size of the constructions, with all values displayed in Fig. 4.23. The results showed that:

- *BNPL* has moderate effect on *Consumer Buying Decision* since ($f^2 = 0.232$),
- *Availability* has small effect on *Consumer Buying Decision* since ($f^2 = 0.04$),
- *Flexibility* has small effect on *Consumer Buying Decision* since ($f^2 = 0.039$),
- *Convenience* has small effect on *Consumer Buying Decision* since ($f^2 = 0.128$),
- *Consumer Spending Patterns* has small effect on *Consumer Buying Decision* since ($f^2 = 0.093$), and
- *Moderating Effect* has small effect on *Consumer Buying Decision* since ($f^2 = 0.021$).

4.7.5 Predictive Relevance (Q^2)

The Q^2 metric indicates the model's capability to predict data that was not included in the model's development. The Q^2 score is calculated through a blindfolding technique. Prior to

implementing this approach, an omission distance (D) needs to be specified. It is recommended by researchers to choose a D value between 5 and 10, ensuring that the sample size divided by D does not result in an integer. The omission distance dictates that during the blindfolding process, every x data point will be excluded and then predicted, where x represents the chosen D value.

Table 4.24: Predictive Relevance

Model	Variable	SSO	SSE	Q^2 (=1-SSE/SSO)
Main	***Consumer Buying Decision***	**834**	**697.703**	**0.163**
SUB	***Consumer Buying Decision***	**834**	**709.131**	**0.15**
All values were accepted				
Source: **SmartPLS 3 Software**				

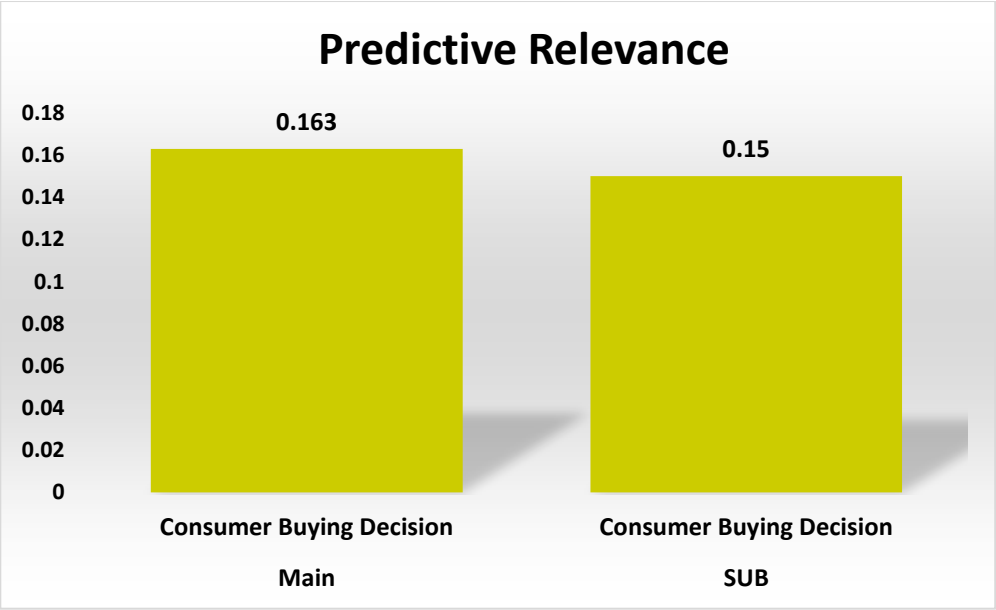

Fig. 4.24: Q-square values

In each blindfolding round, approximately 20% of the data points are excluded with a D of 5. Conversely, a D value of 10 means that roughly 10% of the data points are left out per round. According to Hair et al. (2017), a Q^2 value above zero signifies a model's predictive significance for an endogenous component. To assess the predictive capability of the model, an omission distance of 7 was selected. The results in Table 4.24 and Figure 4.24 demonstrate that the Q^2 values are above zero, suggesting that the research model holds substantial predictive value.

4.7.6 Goodness of Fit of the Model

Tenenhaus et al. (2005) presented the concept of Goodness of Fit (GoF) as a comprehensive measure of fit. It is calculated as the geometric mean of the average R^2 and average variance extracted from endogenous variables. The purpose of GoF is to evaluate the research model across all stages, encompassing both measurement and structural models, to determine the overall model performance (Henseler & Sarstedt, 2013). The GoF index can be calculated in the following manner:

$$GOF = \sqrt{\overline{R^2} \times \overline{AVE}} = \sqrt{0.404 \times 0.550} = 0.472.$$

As previously stated in Table 4.19, the standards for assessing the adequacy of GoF values in determining the quality of a globally acceptable PLS model were given. Based on these standards and the GoF value of 0.472, it can be inferred that the GoF model exhibits a higher level of fitness and can be classified as a valid global PLS model.

The independent predictor factor was shown to have a significant positive effect on Consumer Buying Decision. Between the dimensions of BNPL, Convenience construct was found to has the larger effect on Consumer Buying Decision compared to Availability and Flexibility. All values of R-square were above the minimum accepted value of 10% which indicate goodness of our models, and acceptable level of explained variance. Also, based on predictive relevance values which indicate the model's

out-of-sample predictive power. Our selected model was found to has a predictive power or predictive relevance; which means that it can accurately predict data not used in the model estimation. Finally, the global fit indicator which take into consideration the research model at all stages, i.e. the measurement model and the structural model, with an emphasis on the overall model performance reveals that our models have higher level of fit to considered as sufficient valid global PLS models.

6. conclusion and discussion :

overall BNPL Effect. The overall effect of Buy Now Pay Later payment option (BNPL) on customers' buying decisions is positive and solid. BNPL as a lender offers consumer financing that affects the consumer's decision to buy. BNPL perceived by customers positively impacts the buying decision to finance.

The impact of the BNPL payment option on consumers' buying decisions was found to have a significant positive effect. This would indicate that consumers, particularly in an emerging market context, positively perceive the availability of BNPL as a payment option during the shopping process.

BNPL would be expected as an alternative payment option, especially for youth consumers who constitute a significant portion of the market share and with an inclination for the e-commerce world as a part of their daily lifestyle.

BNPL is also perceived as a great opportunity for consumers to attain products that they could not afford to pay in full at that time and in turn, this payment option could save consumers from impulsive buying behavior or poor consequences in their financial states.

The impact of buy now pay later (BNPL) payment option on consumer buying decisions is a topic of growing importance in today's retail landscape. Consumer spending patterns play a crucial role in moderating the influence of BNPL on purchasing decisions. Understanding these patterns is vital for businesses to tailor their marketing strategies and product offerings effectively (papikyan & aram, 2023).

The impact of Buy Now Pay Later (BNPL) on consumer buying decisions is a topic of increasing interest due to the growing popularity of this payment option. it has been found a massive influence of BNPL on consumer behavior, particularly in the context of online impulsive buying (Juita et al., 2024)

(Simha Vihari et al., 2022) stated regulators of BNPL services can also leverage this data to support the creation of regulations and programs promoting responsible usage. Academics in the field of consumer behavior can utilize the dataset to analyze the influence of payment facilities such as BNPL on individuals, leading to impulsive buying behavior. This study not only

enriches our understanding of online impulsive buying but also provides practical applications for industry stakeholders, regulators, and academic researchers.

consumers utilize BNPL services to ease secure online shopping transactions. BNPL mitigates the feeling of anxiety being scammed by pieces of information, packaging, contents, and quality assurance aside from shopping without payment worries with lower financial literal cues. (papikyan & aram, 2023).

Additionally, strong compatibility treatments desired by customers are securing the data from each service and data merely used for transactions. These findings imply that if BNPL payment adaption in online shopping with these product compatible treatments and product promotions offered by the marketplace services,. (Vandak & Goodell, 2024)

BNPL services provider marketing strategies are believed to increase consumer usage. Meanwhile, BNPL provider services must ensure proper application features to respond to consumers' perception satisfactions. However, being stimulations at a different level of effort to decrease online shopping anxiety perception didn't impact intention. (Simha Vihari et al., 2022

BNPL services has significantly altered consumer buying behavior and decision-making processes. Consequently, it is crucial to examine the impact of BNPL on consumer purchasing

decisions. he advent of technology and e-commerce platforms has facilitated the widespread adoption of BNPL services. Consumers are increasingly drawn to this payment method due to its convenience, flexibility, and perceived cost-effectiveness. From a behavioral economics standpoint, the availability of BNPL options can influence consumers' decision-making by altering their perception of affordability and immediate financial burden. (Guttman et al., 2022).

(Chatterjee , 2020) stated that key impact of BNPL on consumer buying decisions is its potential to increase overall spending. By allowing individuals to defer full payments for their purchases, BNPL can lead to impulse buying behaviors as customers may feel more inclined to make larger or additional purchases than they would if limited by traditional payment methods such as credit cards or cash.

It has been found found that consumers using BNPL spent 20-30% more compared to those using traditional payment methods. (Juita et al., 2024) (Lee et al., 2017) stated that Moreover, the psychological appeal attached with deferred payments can also influence consumers' willingness to invest in higher-ticket items or luxury goods that they might have otherwise postponed purchasing due to budget constraints. It also has been found that consumers utilizing BNPL were more likely to spend on non-essential items. (Guttman et al., 2022).

It's clear that the impact of buy now pay later services goes beyond just facilitating transactions; it directly influences consumer behavior regarding spending habits aligning itself closely with existing research work pertaining factors related psychology economics marketing management providing comprehensive understanding into nuanced dynamics shaping buyer experiences today (Chatterjee , 2020).

the impact of BNPL services on consumer decision-making, offering actionable insights for stakeholders in the form of strategic marketing decisions, data analysis, regulatory support, and academic research. This dataset not only contributes to understanding the dynamics of online impulsive buying but also serves as a valuable resource for stakeholders to make informed decisions and promote responsible usage of BNPL services. (Juita et al., 2024)

Summary of study conclusion :

Study question : to what extinct does the buy now-pay later (BNPL) payment options influence consumers' purchasing Decision in additionally testing the moderating role of spending patterns?

Objectives : The main objective of this research is to study the impact of buy now pay later (BNPL) on consumer purchasing decision and the effect of consumer's purchasing patterns as a moderating variable.

Pertaining to the major objective mentioned above, the study has the following minor objectives:

1. Studying the spread of using (BNPL) and how it replaces the traditional payment options.
2. Studying how the consumer's spending patterns are changed when using (BNPL).
3. Identifying the characteristics of (BNPL) payment options that encourage customer to use (BNPL) .

Hypothesis : There is a significant positive impact of buy now pay later payment option (BNPL) on consumer purchasing decision.

Three sub-hypotheses emanating from the first hypothesis as follows:

(H 1.1) there is a significant impact of the availability of buy now pay later payment option on consumer purchasing decision.

(H 1.2) there is a significant impact of the flexibility of buy now pay later payment option on consumer purchasing decision.

(H 1.3) there is a significant impact of the convenience of buy now pay later payment option on consumer purchasing decision.

Hypothesis 2:

Characteristics of buy now pay later payment option (BNPL) (availability , flexibility , convenience) positively affect consumer purchasing decision moderated by the effect of consumer's spending patterns .

Results :

H1 (supported) : there is a There is a significant positive impact of buy now pay later payment option (BNPL) on consumer purchasing decision.
H1.1 (Supported) : there is a significant impact of the availability of buy now pay later payment option on consumer purchasing decision.
H1.2 (supported) : there is a significant impact of the flexibility of buy now pay later payment option on consumer purchasing decision.
H1.3 (supported) ; there is a significant impact of the convenience of buy now pay later payment option on consumer purchasing decision.
These results are consistent with : (Sengupta, 2022; Relija etal., 2023; Akana, 2022; Alvarez, 2021; Fook etal., 2020; Hjorthal, & Grotan, 2021; Berg etal., 2023; Anthony etal., Soni, 2023; Di Maggio etal., 2022; Vietha & Putri, 2022; Pratika etal., 2021)
H2 (not supported) : consumer's spending patterns dosen't moderate the relation between BNPL and consumer purchasing decision. This result isn't consistent with
(De & Pradhan, 2020; Parker etal., 2022; Castner & Mabli, 2010; Jang etal., 2016; Di Maggio etal., 2022; Atkinson & hayes, 2010 Castner & Mabli, 2010)

7. practical implication :

Understanding the influence of BNPL (Buy Now, Pay Later) payment options on consumer purchasing decisions has practical implications for marketers and managers in creating informed strategies, hence, increasing purchasing intention through point-of-sales financing such as BNPL options. Previous studies have supported that affordable payment options can drive purchasing intention in various contexts. These findings can help decision-makers in online marketplaces or E-commerce with narrower product categories, such as electronics, furniture, and home appliances, that require a higher price tag for consumers. Marketers in these narrower product-category online marketplaces may need to consider partnerships with third-party BNPL providers. BNPL payment options are widely adopted in markets like the United States, Canada, Australia, and several European countries, but other markets have held tighter regulations on credit cards and similar payment options. An encouraging outcome of the respective findings can add value to BNPL providers for conducting promotional endeavors that target markets of higher affordability in paying options . A financing option such as BNPL enables consumers to pay in installments, typically four equal payments, hence having a reduced burden.

8. theoretical implications:

The research findings contribute to the existing body of knowledge within the field, as well as relevant theories, by shedding light on the buy now pay later phenomenon and its consequences for both consumers and marketers. The conceptual framework of this study and all of the hypotheses were thoroughly tested using a quantitative approach and structural equation modeling with the Partial Least Square (PLS) algorithm and bootstrapping technique. findings of this research can be summarized as follows: First, it shows that the BNPL (Buy Now Pay Later) payment option enhances consumers' purchase desire and encourages them to indulge in impulsive buying, and encourage them to buy more of luxurious products and non-durable goods. Second, after controlling for the direct effects of BNPL on purchase desire and impulsive buying, consumers' spending patterns as the moderating variable dosent effect how and when consumer purchase goods or services using BNPL as a payment. Third, as a form of eWOM (electronic word of mouth), BNPL users' positive recommendations in social media positively affect non-BNPL users' purchase desire toward EB (e-commerce brands). Fourth, this research identifies that a high level of perceived benefits of BNPL allows it to enhance the desire to engage in impulsive buying and to switch to BNPL payment methods, particularly among consumers who are already concerned about their high consumption spending. Subsequently, this research discusses how the findings reflect and contribute to

existing literature and theories on BNPL as a new payment option and payment systems in general.

9. recommendations:

The researchers developed an action plan that includes a set of recommendations for each of the study's variables based on scientific literature and a field study of the diverse and varying needs of numerous stakeholders involved. For Buy Now Pay Later providers, buy now pay later partner merchants and Egyptian consumers who use BNPL as a payment option.

the valuable and insightful findings can inform and shape their strategic marketing decisions, facilitating more effective data analysis and enhanced comprehension of consumer behavior patterns. Alongside this, regulators are able to leverage the significant and impactful findings to support the creation of comprehensive regulations, as well as educational programs that aim to promote responsible utilization of BNPL services. The following table 8 shows the

study action plan:

table 7 recommendation action plan

Area of recommendation	Recommendations	How to implement recommendations
BNPL Firms	1. Enhanced costumer education Educating consumers about all the potential risk and benefits using BNPL as a payment option	Financial literacy programs should be developed to help individuals understand how BNPL works, including interest rates, late fees, consequences of missed payments, and impact on credit scores
	2. Responsible Lending Standards: Financial institutions offering BNPL services need to adhere to responsible lending standards by conducting thorough credit checks when approving customers for installment plans.	BNPL providers can set guidelines for assessing borrowers' creditworthiness before granting access to BNPL options. Additionally, they can develop algorithms that assess a customer's ability to repay based on income verification data rather than solely relying on credit scores.
	3. Customer Support Services: BNPL providers should prioritize providing efficient customer support services for individuals using BNPL options by offering assistance in managing payments or resolving issues related to billing issues or product returns.	BNPL providers in Egypt should try to enhance their customer services by increasing methods and ways of contacting with customers specially in offers and discounts periods and try to offer realistic description of how consumers deal with the offers and the exact amount of interest that consumers should pay
	4. Transparency and disclosure : Transparency and disclosure are crucial in the implementation of Buy Now Pay Later (BNPL) services, ensuring that all stakeholders, particularly consumers, are well-informed about the terms and conditions.	Clear disclosure of pricing, repayment structures, and potential consequences of non-payment is essential for promoting consumer trust and compliance. BNPL firms should allows consumers to defer payments for purchases, typically in interest-free instalments, with repayment structures varying across different lenders.
	5. Data Security and Privacy: BNPL service providers will be mainly responsible for securing consumer data privacy.	The service providers should put in place a comprehensive data security framework that encompasses user data privacy and security concerns across the BNPL consumer journey. First, a strict onboarding process should ensure the accuracy and legitimacy of consumer data collected at the registration and sign-up stages. Next, proper safeguards should be put in place to restrict access to sensitive user data. Such controls could include the prohibition of screen capturing and transferring the sensitive information into unsecured databases.
BNPL partners merchants	1. Pritorize the benefits for consumers : Retailers should put the customers in the first place by providing a real , complete and full information about using BNPL as a payment option through financial education organizations or persons.	Retailers can partner with financial education organizations or persons to provide resources and information about responsible borrowing at the point of sale or checkout process. Additionally, financial institutions can offer educational materials through their online platforms or mobile applications.

	2. Take advantage of using BNPL for their customers Buy Now Pay Later (BNPL) services offer significant benefits to merchants and businesses, shaping the landscape of retail transactions.	**One of the key advantages for merchants is the potential for increased sales. By providing customers with the flexibility to spread payments over time, BNPL services can attract more consumers and lead to higher transaction volumes. BNPL can be used as a tool for customer acquisition, as it appeals to individuals seeking alternative payment options.**
	3. Make the best use of improved cash flow BNPL can also contribute to improved cash flow for merchants.	**With the assurance of receiving payments from the BNPL provider, businesses can better manage their finances and working capital. This can be particularly beneficial for small and medium-sized enterprises, providing them with more stability in their cash flow.**
	4. Promote Responsible Usage: BNPL partners Merchants play a crucial role in promoting responsible usage of BNPL services among their customers.	**This could be implemented through encourage buyers to consider their financial situation before opting for installment plans or deferred payments. This can be achieved through educational resources and messages that emphasize the importance of budgeting and prudent financial management.**
	5. Streamline Checkout Processes: To optimize the customer experience when using BNPL options at checkout	**merchants should integrate smooth and easy processes that allow users to easily select this payment method without unnecessary complexity during online or in-store transactions. A seamless checkout process not only enhances customer satisfaction but also increases conversion rates by reducing barriers that may deter potential buyers from completing their purchases due to cumbersome payment procedures.**
BNPL users	**1. Understand Terms and Conditions: Before using a BNPL service, it is crucial for users to thoroughly read and understand the terms and conditions associated with these payment options**	**BNPL users should familiarizing oneself with repayment schedules, fees, interest rates (if applicable), penalties for missed payments, and potential impacts on credit scores. having a clear understanding of the obligations and costs involved in using BNPL services,BNPL users can make informed decisions about when and how to utilize this payment method without encountering unexpected financial burdens .**
	2. Budget Wisely: Responsible and careful budgeting is essential when incorporating BNPL into personal finances.	**BNPL Users should assess their current financial situation before opting for installment plans or deferred payments through BNPL services. It's important to consider whether they will be able to comfortably afford future payments without compromising other essential expenses .**
	3. Avoid Overextending Finances: it's vital for BNPL users to avoid overextending themselves financially by taking on too many concurrent BNPL commitments.	**Users should Carefully evaluating their capacity for managing multiple repayment schedules concurrently is crucial in preventing debt accumulation or late payment penalties. By utilizing BNPL when necessary rather than as a frequent default option, individuals can minimize potential negative impacts on their financial situation.**
	4. Regularly Monitor Repayment Obligations Paying an enough attention to financial dues	**Staying proactive in monitoring upcoming repayment obligations associated with any utilized BNPl service is imperative; doing so allows individuals to plan ahead effectively while avoiding missed payments which may result in additional fees or adverse effects on credit scores.**

	5. Seek Assistance When Needed **Users should try to get the full assistance before spreading their payments using BNPL**	**If at any point an individual finds themselves facing challenges related to meeting their obligations under a particular BNPL service they have to seek for assistance from the provider with information that could enable them navigate through such circumstances more effectively and to avoid risks that could potentially appear.**
	6. Be Mindful of Credit Score Impact: **BNPL transactions greatly affect ISCORE of users in Egypt.**	**Utilizing certain BPNL services could have implications towards credit score standings upon assessments carried out by relevant agencies holding significant bearing future borrowing capacities (the Egyptian credit bureau -ISCORE) therefore mindful considering potential long-term implications before making commitments offers insight better understanding accountability decisions made.**

10. limitations and future research :

The limitations of the current study should be considered when interpreting

the results. The sample size was limited to (360 participants) through an

electronic survey through Google Format and written copies and it focused only on BNPL users in Egypt It didn't apply to users in other countries.

Although this study advances the literature on consumer buying behavior in BNPL online transactions by providing a comprehensive conceptual framework and empirical examinations, it has several limitations that need to be acknowledged. First, this research was conducted in Egypt , utilizing data obtained from respondents familiar with BNPL services, Hence, while the findings can be insightful regarding consumer behavior in the specific cultural context of Egypt

applying them to other countries or populations should be executed with care, as the impact of customer behaviors can vary greatly across differing cultural backdrops.

Second, to examine consumer buying behavior in BNPL transactions, this study exclusively incorporated BNPL payment option-related external stimuli. However, impulsive and compulsive purchases are all intertwined and influenced by past stimuli, internal states, and external environments, creating an avenue for further investigation.

Third, as this research mainly focused on external stimuli and cognitive and emotional processing in the BNPL payment scenarios, considering the dark side of BNPL services in the present research model was neglected. Future research should integrate these factors into the proposed S-O-R framework to advance the literature.

The study was conducted in great cairo and giza only and the study examined only three main characteristics of BNPL payment option which is (flexibility , availability and convenience) .

To create a more comprehensive model, future research may need to take into account another characteristics rather than the studied characteristics in this research , the future research should examine BNPL users , merchants and partners in more

governments other than great cairo and giza that have been studied in this research , So, further research should be conducted to enable more precise discoveries and insights on the subject, concentrating on the Egyptian market.

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