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A STUDY ON EVALUATING ANTECEDENTS OF USAGE OF VIRTUAL CARDS IN MUMBAI REGION

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Abstract:

The use of virtual card over physical bank card has increased in the recent decade. Financial inclusion facilitates access to financial services. The purpose of this study is to evaluate antecedents of usage of virtual cards in Mumbai Region. Structural equation modelling (SEM) using SMART PLS have been used for the current study. It is seen that effort expectancy, hedonic motivation, performance expectancy, security, and social influence on Behavioural intention of virtual card. Further studies can be conducted using moderating constructs and building a higher order construct.

Keywords: *Virtual card UTAUT, Structural Equation Model (SEM).*

Introduction:

The banking system always has an essential role to play in every single country's economy. It is crucial for any nation as it provides for the needs of credit for all sections of society. India is one of the largest unconstrained democracies and an ascending economic giant. The Indian banking system has come a long way from its traditional form. There have been so many upgrades and challenges that this sector has endured to bring about change in the system and the upgradation of technologies. The arrival of Credit and Debit cards, Electronic Clearing Services, the introduction of Electronic Funds Transfer and online and mobile banking. The 21st century has brought various development and growth in e-commerce, online shopping, online ticket booking and various other online transactions. Banks play a vital role in advancing online business. Different online companies provide cash-on-delivery options. Yet, there are so many schemes and deals provided by the banks that are accessible only via payment of credit and debit cards which draws people's attention towards it. Banks offer a powerful and dependable intermediary in online transactions, providing a brave window into online business.

Virtual banking is another banking aspect that provides several bank services online through the internet. It offers various services such as account opening, payment series, fund transfer, e-shopping, etc. People with access to a computer and the internet can access virtual banking and take care of their requirements. The virtual banking system was

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initiated to make India a cashless economy; due to the reformations brought about after the demonetization, zero-balance accounts are possible with the virtual banking system. One such advantage of virtual banks is the virtual credit cards; it is an add-on VISA credit cards which are issued to a user's primary credit card. However, it is not in the physical form and literally in the virtual state. The details of these credit cards are visible online such as the CVV number, card number, expiry date, other information, etc. These cards were introduced to curb credit card fraud, which is always happening to some other people. These virtual credit cards protect users from any form of data breach via an insecure network connection. It safeguards its users' identity online and can be easily created using various bank applications available on the internet; the banks do not charge any additional sums for the issue of these virtual cards. The validity of these cards is 48 hours, and they get disposed of online after their expiry; all a person needs is a mobile phone with an internet connection to complete any transactions they may intend to do using the virtual credit card, and these virtual cards are issued only to primary card holders.

People are drawn towards Virtual credit cards because they are a temporary and easily disposable feature. Also, it limits the number of transactions that can be carried out, which provides add-on security to its users.

Review of Literature:

1. **Alam, A. et al. (2022)** Today's cashless world use of digital marketing is rampant. Credit card is commonly used for payment. Due to it being used nearly daily, the chances of fraud are very high. The paper looks at the positive and negative points. Credit card companies are researching to trace frauds as accurately as possible, quickly and at the least cost. Although no two scams are similar, different techniques and algorithms are used.
2. **Altman, E. (2021).** This paper examines the attempt to create synthetic data for a credit card transaction. It also investigates procedures that prove whether the data submitted is authentic. Synthetic credit card data may even predict future fraud. The technology for an artificial credit card for US consumers has been outlined. The synthetic data accumulated has all the details that, include card details as well as cash purchases.
3. **Das, A. (2022).** This paper studies the hidden charges on products purchased using credit cards. The research focuses on the credit cost that is along with retail. The use of credit cards is to bring about digital marketing and make India cashless. It is essential to address the hidden costs included in the payment system to benefit the consumers. Credit costs or charges should be for the payee, not the one paid. This will be good for merchants accepting such payments.
4. **Manikandan, P., & Latha, R. (2015).** The authors examined virtual card creation for a secured transaction. The paper states that virtual cards have a limit to the transaction that they can carry. Virtual credit cards decrease fraudulent transactions. The case of theft decreases substantially due to virtual credit cards being different from physical cards. Virtual cards have several benefits as they limit the number of transactions, are issued for a limited time and have unique card numbers.

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5. **Raja, V. (2012).** The research examines the different types of internet banking services based on secondary data. It highlights the benefits of e-banking while comparing traditional banking. Consumers can use the services anytime with no time constraints. The banking industry needs to adapt to the changes by accepting technology which must be addressed in the present economic situation.
6. **Saranya, A. et al. (2015).** The paper examined the android application for e-card transactions using NFC. Users no longer prefer traditional physical credit cards; with the modernization of technology, there are several benefits that a user can gain, such as reduced usage cost and user satisfaction. For better use of credit cards, there is a requirement for computerization using Near Field Communication (NFC), a secure low-range wireless connectivity technology. The paper examined how NFC enables its customers to store data of their multiple virtual credit cards securely and lets them complete transactions without any issues.
7. **Shafi, A. M. et al. (2020).** The authors examined virtual cards and how they will be the next generation's security. The authors point out that numerous credit card frauds have been reported regularly. The authors found that with the increase in technology and science, there has been much updating in the banking world. Virtual ATM cards will help people in numerous ways and also reduce fraud. Many people use phone locks that safeguard its user. Banks should also provide speech and face recognition, fingerprint, and iris scan so that without them, the application cannot be hacked and is more secure from fraud.
8. **Sujith, T. S., & Julie, C. D. (2017).** The author has attempted to recognise the problems of electronic payment and solutions to improve the system. E-payment has its benefits but also its setbacks. India is on a journey to make the nation cashless and promote e-business. This research also aims to know the pros and cons of e-payment. The modes of payment are debit cards, credit cards, smart cards, and e-wallets. The risk is mainly data theft and fraud.

Significance of the study

The study will be beneficial to the banking companies to target the non-users of virtual card and convert the non-users into users. Inculcation of usage of virtual card will help the users in avoiding the danger of theft of physical card. Usage of virtual card over physical card will also protect the environment.

Objective of the study:

To evaluate antecedents of usage of virtual cards in the South Mumbai region

Hypotheses of the study

1. Effort expectancy has a positive impact on the usage of virtual cards in the south Mumbai region
2. Hedonic motivation influences the usage of virtual cards.
3. Performance expectancy has influences on the usage of virtual cards.
4. Security has significant effects on the usage of virtual cards.
5. Social influence has effects on the usage of virtual cards.

Research Methodology:

Data has been collected from 170 users of virtual cards from the Mumbai region using a non-random

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purposive sampling technique. (As per Soper D.S (2023) at 0.3 effect size, statistical power=0.8, number of latent variables=6, Number of observed variables=25 and p value=0.05 the minimum required sample = 161) A well-structured questionnaire has been made to accumulate the primary data. The research is based on a descriptive research design. SMART PLS has been used for the current study and the technique applied for the current study is the structural equation model.

Data

Analysis and Interpretation

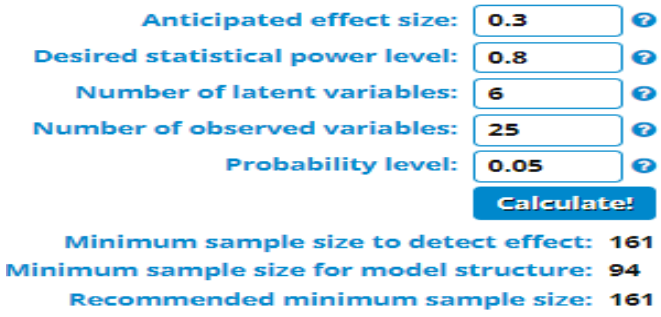

Table No: 1 Relability analysis

Construct	Cronbachs alpha
PERFORMANCE EXPECTANCY	0.731
EFFORT EXPECTANCY	0.772
SOCIAL INFLUENCE	0.765
HEDONIC MOTIVATION	0.802
SECURITY	0.814
BEHAIOURAL INTENTION	0.811

As all the values of cronbach alpha > .70 indicating sufficient corellation between the items.

Figure No: 1 SEM model

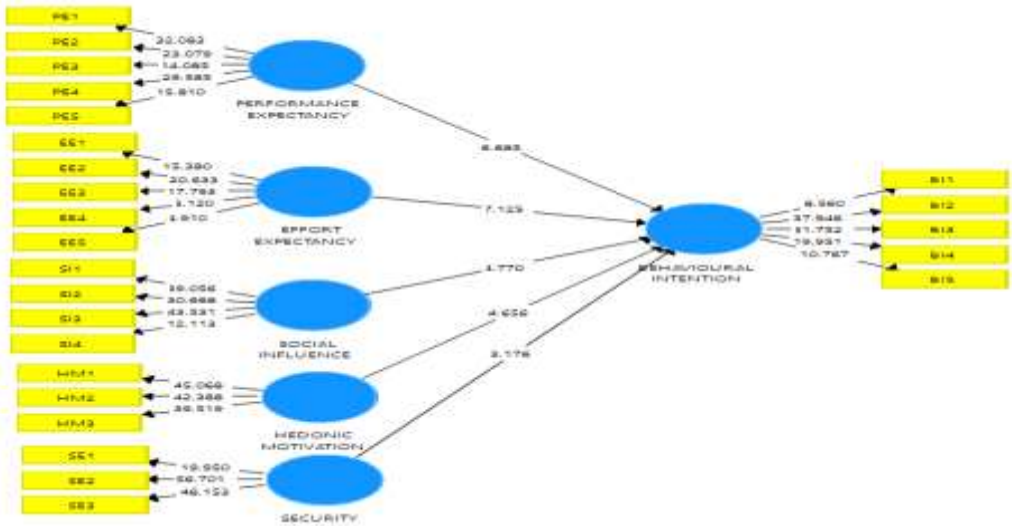

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Table No: 2 Hypothesis testing

Path	Beta coefficient	T value	P value
Effort expectancy → behavioural intention	0.373	7.125	0.000
Hedonic motivation → behavioural intention	0.199	4.656	0.000
Performance expectancy → behavioural intention	0.285	6.685	0.000
Security → behavioural intention	0.114	3.176	0.002
Social influence → behavioural intention	0.157	4.770	0.000

P (value) < level of significance 5% thus Ho is rejected and H1 is accepted in all the cases indicating the significant impact of effort expectancy, hedonic motivation, performance expectancy, security and social influence on usage decision of virtual card.

Conclusion:

The analysis of this study indicated that there is a significant positive impact on effort expectancy, Hedonic motivation, Performance expectancy, Security and social influence. All these factors significantly impact the behavioural intentions of a person towards making investment decisions on virtual cards. After reviewing past literature, various other scholars have found that the significance level indicates a positive association between behavioural intention which matches with our study and proves that there is a significant impact on the behavioural intentions. It can be said that people are more drawn towards this technologically advanced form of banking as it helps them in keeping track of their spending and also safeguards them against any form of fraud, and reduces the risk factors that comes with traditional cards. The banks can use the findings of this study to create awareness around virtual cards. They can use their present customers to grab the attention of the non-users of virtual cards. All these behavioural intention factors suggest that people get drawn towards new technology if it is presented creatively, innovatively, and informatively.

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