European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1 (2024)
https://doi.org/10.52783/eel.v14i1.1095
http://eelet.org.uk

Application of TOPSIS for ranking the perception of benefits and problems associated with Digital Payment system in suburban India

1 PRAVEEN PAUL JEYAPAUL, 2 PATHAMUTHU P., 3 SUGANYA S.
1 Professor, Mepco School of Management Studies, Mepco Schlenk Engineering College, Sivakasi, TN, India; jpraveen@mepcoeng.ac.in; https://orcid.org/0000-0002-3849-4291
2 Assistant Professor, Mepco School of Management Studies, Mepco Schlenk Engineering College, Sivakasi, TN, India; pathuincabin@mepcoeng.ac.in
3 Assistant Professor, Mepco School of Management Studies, Mepco Schlenk Engineering College, Sivakasi, TN, India; suganyas@mepcoeng.ac.in

Abstract

Presently in India, Digital payment systems are given a big thrust by the government. Making the consumers of products and services to adopt digital transaction needs a clear understanding on the perceived benefits and problems associated with the same. Thus the main objective of the study is to analyse the consumers' perception of benefits and problems associated with digital transactions and rank the various groups of customers, differentiated by their occupation, education level and age using TOPSIS. Primary data was collected from 122 respondents who use digital payment modes in a suburban area of Virudhunagar in India. Data was collected using a structured questionnaire with five point Likert scale. It is found that self-employed individuals consider the benefits associated with digital payments more important than the problems associated with it while private employees consider the problems associated with digital transactions more important. Respondents with lowest education consider both benefits and problems equally while deciding on the adoption of digital payments while older respondents attach least importance to all factors which are considered to be benefits of digital payments. The outcome of the research reveals that people in different categories prioritise the benefits and problems associated with digital payments differently. Thus managers need to customize their marketing communications for digital payments according to the differing perception of the demographics.

Keywords: Digital Payments, Perceived benefits, Ease of use, Perceived problems, Security, TOPSIS,

1. Introduction

In the recent times the Government of India is giving a big thrust in promoting digital transactions among businesses and the general public with a view to reduce money laundering and black or unaccounted money being circulated in the economy, subsequently bringing more transparency in money transactions. This is evident from 'The Digital India programme' of the Government of India which aims at creating a digitally empowered society and subsequently creating a cashless country. The digitalisation of payments encouraged by the government was claimed to reduce tax evasion, reduce counterfeit money movement in the country, to help build transaction history of individuals with a view to enable improved credit access and financial inclusion especially for underprivileged and reduce costs of managing cash in the economy by reducing cash transactions [1]. With the above objective, the Union government of India demonetised Indian currency on 8th November 2016 and introduced various measures for promotion of digital payments and has paved ways to improve the ease of digital transactions for both individuals and businesses. The quintessential nature of the policy is to shift the economy from a cash based economy to a cashless economy.

Digital payment or electronic payment is the transfer of or payment of value, usually money, for any value transactional purposes including purchases that are made through digital, electronic or online channels. In digital payments, both the payer and payee use digital modes enabled by computers or mobile devices with internet connection to send and receive money. In digital transactions, the customer authorizes the transfer of money to the seller or service provider through electronic means and the funds are transferred directly from the buyers account to sellers account. The accounts of both buyer and seller could be hosted by the banks or may be with money transfer service providers. Digital payments and money transactions could be done through many systems of money transfer. These include transactions through debit cards, credit cards, Immediate Payment Service (IMPS), National Electronic Fund Transfer (NEFT), Real-Time Gross Settlement (RTGS), Electronic Clearing Service (ECS), mobile wallets, or any of the pre-paid mechanisms using mobile applications or computer devices or other similar ways [2]. All these activities need good internet connectivity on both the payer and payees side.

Subsequent to the push given by the Indian government to build a cashless economy in the country, Reserve Bank of India (RBI) - the central bank of the country, had observed a remarkable spurt in digital transactions till March 2019. This

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1 (2024)
https://doi.org/10.52783/eel.v14i1.1095
http://eelet.org.uk

indicated that the digital push encouraged by the government is gaining momentum. Motivated by this trend the central bank is setting an ambitious target to push up the volumes by four times by 2021. The RBI reported that during the year 2018-19, total digital transactions recorded a growth rate of 58.8 per cent in terms of volume. This growth in digital transactions is on top of a growth of 50.4 per cent during 2017-18 [3]. It is also further reported by RBI that in India, the volume of digital payments has increased by 33 per cent year-on-year during 2021-2022 [4]. This is a marked improvement from the previous year. Further it is projected that, in India, the value of digital payments will increase to US$ 10 trillion in 2026 from the present US$ 3 trillion. It is also projected that in 2026, digital payments will constitute 65% of all payments [5].

Even though the government is giving a big push to digital payments and is focussing on the benefits of the same, there are certain apprehensions on digital payments by the end users. This research focuses on the perception of benefits and problems associated with digital payments so that and understanding of the above may give the strategists a way forward in designing promotional programs promoting digital payments in India.

2. Review

Many researchers have studied the aspects of benefits and problems associated with digital payments. Blumenstock et al. [6] have indicated that while businesses recognise and enjoy the benefits digital payment systems such as reduction in costs of transactions and reduction or even complete removal of fraud, the same benefits are not enjoyed by end users or individual customers who are made to adopt the digital payments, or has not shown improvement in overall financial inclusion. Mallat [7] attributes the advantages of digital payments to freedom of time and place and easy accessibility to business by customers from anywhere and anytime. It is also shown that education level of users has a significant influence on the usage of the digital payment modes. Dahlberg et al [8] have pointed out the factors influencing adoption of digital payments as perception of ease of use of the technology, costs associated with internet banking, feeling of security in these transactions, trust on sellers and service providers, speed of transaction and website ambience. Another study provided understanding of how different payment mechanisms such as credit/debit cards directly impact consumer spending behaviour in a retailing context, their influences on customers' psychology of consumption, and perceptions of payment technologies and the results of the study shows the brilliant future prospects of plastic card payment in India [9]. Nayak and Agarwal [10] have considered factors such as simplicity of usage, charges associated with transactions, and time advantage. Pulina [11] endeavoured to identify factors affecting credit card adoption and usage [11].

Some researchers have investigated the differences in spending behaviour among consumers using three alternative payment technologies like cash, credit cards, and stored value contactless smart cards, and the researchers observe that the nation needs to go a long way to move away from money based economy towards a cashless (electronic) payment economy. The research helps to understand the diminishing money administration cost, track exchanges, check charge evasion / misrepresentation and so forth, upgrade budgetary consideration and incorporate the parallel economy [12]. To support cashless economy, customer must be willing to use the Point of sale terminals (PoS) at the buying outlets. A study by Adeoti and Oshotimehin [13] finds that factors such as security in using PoS, ease of use, availability of PoS, convenience, complexity of the technology are among the factors influencing the use of PoS. Efforts at improving the security of transactions, availability of the technology and convenience of use is recommended in order to drastically reduce excess cash flow especially in developing economies [13].

Bamasak (2011) found that individuals frequently use E-Banking services and they feel that it is a time saving process. The respondents also felt that E-Banking is easy to use, provides up-to-date information and have said that E-banking is convenient since it is available 24 hours. The most frequently used E-Banking services are ATM services, Bill payments & getting the bank statements. The study shows the factors such as technology acceptability, safety, availability, user friendliness and accessibility highly depends on the demographic profile of the population size. Most of marketing decision in terms of enhancing the effectiveness of delivery channels can be taken by considering these factors. Security of mobile payment transactions and the unauthorised use of mobile phones to make a payment are great concerns to the mobile phone users [14]. Bansi Patel and Urvi Amin (2012) found that the consumers perceived that mobile payment is useful because it reduces time and energy costs. The respondents felt that they could make timely payments without having to go to point of purchases. In addition, mobile payment was considered to be convenient as consumers are in possession of their mobile phones all the time.

The main barrier is that the consumers generally demonstrated a lack of trust in the mobile payment technology and also in the mobile service providers [15]. Many traders and sellers are apprehensive about digital payments because they believe that digital payments will have service charges which will increase the selling price of products thereby decreasing their competitiveness in comparison with those who do not go for digital payments [16]. This perception may discourage sellers and their customers from adopting digital payment systems. In India cash transaction was and still is the

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1 (2024)
https://doi.org/10.52783/eel.v14i1.1095
http://eelet.org.uk

predominant way of doing business which is evident from the fact that cash transaction have regained the levels as it was before demonetisation [17]. According to a report by Assocham-Deloitte, another salient factor hampering the successful implementation of digitisation in India is the infrastructural bottlenecks which include poor internet connectivity and lack of clarity in government policies on digital payments and transactions [18]. In India, a large section of the population, especially the uneducated and underprivileged does not actively use banks for their financial activities. This too makes digitalisation of transactions next to impossible [17].

Akinola [19] considered factors such as are fear over privacy by users of digital payments and fear of computer hackers by the users as important factors affecting the adoption of digital payments and the study concludes that concern about security is of decisive importance to users and for adoption of digital payments. Other factor that is of importance is convenience, which is also a major player. This research also investigates the achievability of presenting cashless transactions for business exchanges and the security dangers related to it. [19]. Of the many factors security and privacy associated with digital transactions seems to be of big concern to users at both ends – the sellers and buyers [20] [21]. Groß [22] finds that consumers in general and specifically with digital payments are highly sensitive to issues of risk associated with digitalisation, privacy of their personal and financial information, network security, transaction protection, and trust associated with the sellers online. Cristobal et al [23] measured the outlook of students which could drive them to use cashless transactions and the research considered factors like convenience to users and reticence to adoption of new technology among other factors. It was found that the most important factors considered by the students were the convenience related to the use of cashless financial transactions, the ease of use associated with digital payments and the advantage of reduction in time wasted with the use of cashless payment [23].

In other studies, the Antecedents used for measuring Consumer Attitudes Towards Adoption of Digital Payment Methods were Compatibility, Confidence and Facility of Use, Individual Mobility, Perceived Ease of Use, Perceived Security, Perceived Usefulness, Personal Innovativeness and Subjective Norm [24]. Further, other factors used were - digital payment system compatibility (with all aspects of my payment transactions, compatible with current situation, fits into current payment transaction style); simplicity (not too complex to use, does not involve many unnecessary operational steps, operationally simple); economic value (enable to shop economically, help save money, yields economic benefits); switching cost (time and effort put into mastering the current transaction method, time and effort to switch to the new way of making payments, switching to a new payment method will result in unexpected hassles); perceived privacy risk (worry about theft of personal information, concern about personal information used for different purpose, payment information can be collected, tracked, and analysed, privacy information can be misused, inappropriately shared, or sold); personal innovativeness (desire to experiment new technology, like to know more about new products before others do, new products excite me); perceived value (using digital payment is a convenient way to shop, can be used to shop anywhere and at any time, purchasing products using digital payment is interesting); Intention of continued use (will continue to use digital payment, make purchases in the near future using digital payment) [25].

Problems of cashless system which may impede the adoption of digital payment are internet availability Internet reliability, online fraud, security of users information, transaction charges and literacy of the digital payment system users [26]. Similar studies also highlight factors that influence digital payments such as confidence of users, ease of use concomitant with the system, trust and security that has significant influences on consumers' perception towards digital payment [27]. The benefits provided by e-payments are rapid access to financial markets, immediately transactions between entities everywhere in the world, the increase in financial activity and the most important – they are one of the items to support further economic development [28].

3. Methodology

The objective of this study is to identify and rank the perceived benefits and problems faced by users of online transaction. To address the research questions considered, data was collected from 122 respondents who use digital payment modes frequently for their money transactions in a suburban area of Virudhunagar in India. Data was collected using a structured questionnaire through online survey method. To explain the research question with the perspective of respondents' demographics, information regarding respondents' gender, age, education and occupation were sought.

The perspectives considered for this research are the perceived benefits of digital payments and perceived problems associated with the same. Based on reviews done, the items included under benefits of digital payments are Simplicity of the digital payment system (B1); Easy to use (B2); Convenience of anywhere and anytime (B3); Ability to track individual expenses (B4); Safety of not carrying cash (B5); Advantage of time saving (B6). The items included under perceived problems of digital payments are Fear of misuse of personal information (P1); Fear of security and safety of bank account details (P2); Knowledge required to operate digital payments (P3); Poor internet connection which may lead to the digital transaction failure (P4); Additional service charges levied on each digital payment (P5).

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1 (2024)
https://doi.org/10.52783/eel.v14i1.1095
http://eelet.org.uk

Eleven different cases of weight assignment for the criteria are considered.

Case 1: Equal weights for all the six criteria summing up to 1.
Case 2: Higher weightage for criteria 2 (B1) and equal weights for all other criteria summing up to 1.
Case 3: Higher weightage for criteria 3 (B2) and equal weights for all other criteria summing up to 1.
Case 4: Higher weightage for criteria 4 (B3) and equal weights for all other criteria summing up to 1.
Case 5: Higher weightage for criteria 5 (B4) and equal weights for all other criteria summing up to 1.
Case 6: Higher weightage for criteria 6 (B5) and equal weights for all other criteria summing up to 1.

4. Results and discussion

In this section, the objectives of this study mentioned in the methodology part are analyzed and the results are discussed. In the first part of this section, the distribution of respondents based on their demography is discussed. In the second part, the perceived benefits and problems faced by respondents with online transaction are studied.

To know about how the demography of the consumers' such as gender, age, occupation and educational qualification were spread across the sample, the information collected on the same were plotted graphically and are presented in the figures below.

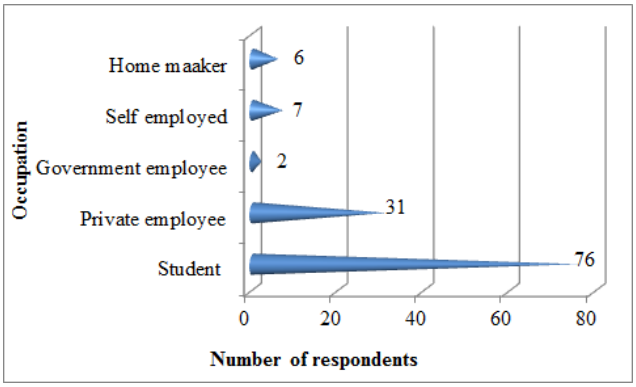

Figure 1. Occupation distribution of Respondents

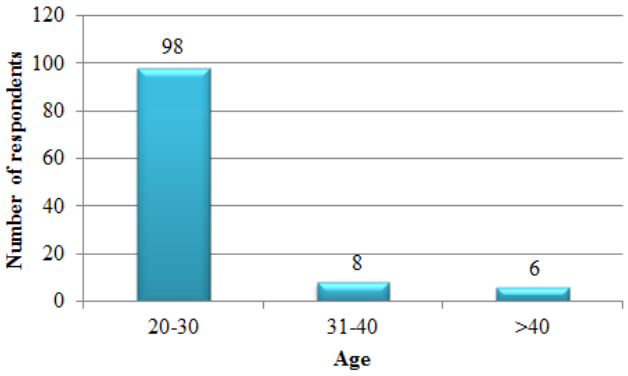

Figure 2. Age Distribution of Respondents

Figure 1 shows the occupation distribution of respondents and out of 122 respondents, 76 are students and followed by 31 private employees. From the responses of students, private employees, self-employed and others it is seen that most of them prefer cashless transactions. Further looking into Figure 2, it is evident that most of the respondents fall under the category of 20-30 years of age and followed by 31-40 age category. This probably may be because most of the young customers go for online buying and thus resort to digital and cashless transactions.

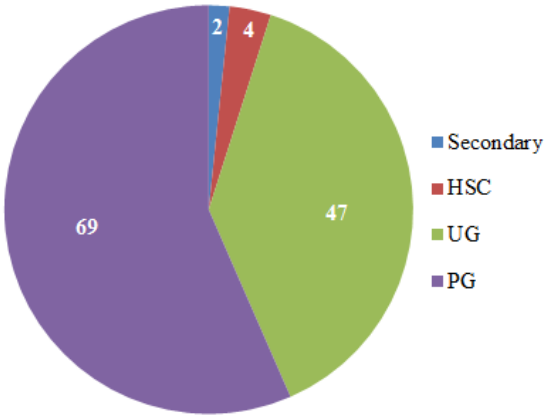

Figure 3. Education Qualification of respondents

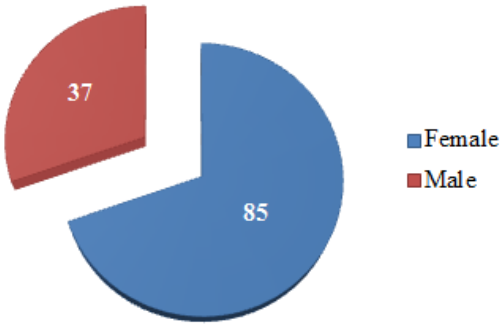

Figure 4. Gender Distribution of Respondents

The educational qualification of respondents is presented in Figure 3 and it is seen that out of 122 respondents, 69 respondents are post graduates among them 46 are female and 23 are male. Followed by this, 47 respondents are under

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1 (2024)
https://doi.org/10.52783/eel.v14i1.1095
http://eelet.org.uk

graduates among them 10 are male and 47 are female. It is seen from Figure 4 that out of 122 respondents, 85 respondents are female and 37 respondents are male. The survey was administered randomly to the respondents and it so happened that most of the respondents were females.

4.2 Ranking of Benefits and Problems of Digital Payments

In this section, the results from TOPSIS are tabulated and the implication of the rankings thus obtained are discussed. It may be noted that the results of TOPSIS are based on the opinion of individual groups of respondents, segregated based on their demographics. Thus when occupation of respondents was considered, only those respondents' opinion on factors B1 to B6 and P1 to P5 are considered in TOPSIS. Similarly, when education level of respondents was considered, only those respondents who have the respective education level were considered for TOPSIS. Thus there will not be an overlap between the aforementioned demographics, implying that Rank 1 in occupation is exclusive of Rank 1 in education level.

4.2.a Ranking of respondents based on their Occupation:

Occupation	Equal weight for all criterion	Highest weight for B1	Highest weight for B2	Highest weight for B3	Highest weight for B4	Highest weight for B5	Highest weight for B6	Highest weight for P1	Highest weight for P2	Highest weight for P3	Highest weight for P4	Highest weight for P5
Rank 1	Self emp	Self emp	Self emp	Self emp	Self emp	Self emp	Self emp	Pvt	Pvt	Student	Pvt	Pvt
Rank 2	Student	Student	Student	Student	Student	Student	Student	Student	Self emp	Pvt	Student	Self emp
Rank 3	Pvt	Pvt	Pvt	Home	Home	Govt	Pvt	Self emp	Home	Self emp	Self emp	Student
Rank 4	Home	Govt	Home	Pvt	Pvt	Pvt	Home	Home	Student	Govt	Home	Home
Rank 5	Govt	Home	Govt	Govt	Govt	Home	Govt	Govt	Govt	Home	Govt	Govt

When equal weightage is given to all the criteria taken up for the study, it can be found that self-employed individuals are ranked on top followed by students, private employees, home makers and government employees. This indicates that self-employed individual consider all the factors equally important in adopting digital payment. Here all the factors pertaining to benefits are maximised and the factors pertaining to Problems of Digital Payment are minimised.

It can also be observed that self-employed individuals consider the benefits associated with digital payments more important than the problems associated with it. This is seen from the fact that, self-employed individual are ranked consistently at the top when all the factors associated with the benefits of digital payments are given higher weightages. The benefits of digital payments /transactions become more relevant to the self-employed because most of the monitory transactions they do on a day to day basis pertaining to their business happens through digital mode. Thus they expect digital transaction to be less complicated or simple (not too complex to use, does not involve many unnecessary operational steps, operationally simple) and hassle free because they are easy to use and less time consuming thus time saving. They prefer digital payments because they need not visit banks either in person or through someone on a daily basis to deposit or withdraw money as the procedural process in the banks when physical money transaction is done is a long drawn process and a lot of time is spent on long queues even to reach the bank teller to start any transaction. Further these transactions obviously happen anywhere anytime and one need not wait for the banks to open in the mornings. It is also an obvious fact that digital transactions can be use anywhere and anytime which will be quite convenient for these self-employed individuals. Further, they can also track the transactions online without waiting for the banks services like printing of bank pass books etc. Also, they need not carry cash with them to the banks for depositing the money which is quite unsafe. Thus for obvious reasons, self-employed individuals prefer digital transactions for their benefits.

Private employees consider the problems associated with digital transactions important in considering the adoption of digital transactions for their regular usage. If the private employees feel that their personal information will not be compromised or misused pertaining to a particular mobile phone or computer applications either for shopping or banking, then they are likely to adopt digital transaction in their regular use. They also expect security and safety of their financial information from those mobile phone or computer applications. If they are confident that their financial information such as bank information or credit card information will be secure with the service provider of financial transaction such as

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1 (2024)
https://doi.org/10.52783/eel.v14i1.1095
http://eelet.org.uk

BHIM, Rupay etc, then they are likely to adopt digital transactions. Further, because private employees are likely to be quite educated in terms of graduation or having operational knowledge on mobile based applications, they don't consider the knowledge required for operating these apps as important for their adoption of digital transactions. Private employees also feel that poor internet connection will stop them from using digital transactions. Many times while using digital payments, money gets debited from the user's bank account but doesn't reach the sellers' account. Almost often this happens due to poor internet connection. Since money transfer or transaction has to be seamless without any interruption, patchy internet connectivity will create a lot of anxious moments for the users thus discouraging them from using digital payments altogether. Also, private employees are vary of the extra charges associated with digital transactions such as service charges which attracts 18% GST in the present taxation system. This is considered as a big put-off for adopting digital transactions.

In this case, students feel that the knowledge required for digital transactions is important for adoption of the same. This may be because of the fact that they tend to use digital transaction in its most plural form. They just don't do shopping online and be satisfied, but they make a lot of digital transaction including payment for games etc. Thus they may feel that more knowledge is required for using digital transactions to the fullest possible extent. While observing the second rank, for almost all of the different combination of weightages given, students consider both the benefits and problems of digital transaction in equal measure for adoption of digital transactions.

Government employees are ranked the least when equal weights are assigned to the factors which imply that they don't consider the above mentioned benefits or problems associated with digital transaction for its adoption.

4.2.b Ranking of respondents based on their Education

Education	Equal weight for all criterion	Highest weight for B1	Highest weight for B2	Highest weight for B3	Highest weight for B4	Highest weight for B5	Highest weight for B6	Highest weight for P1	Highest weight for P2	Highest weight for P3	Highest weight for P4	Highest weight for P5
Rank 1	Sec	Sec	Sec	Sec	Sec	Sec	UG	Sec	Sec	Sec	Sec	Sec
Rank 2	UG	PG	PG	PG	UG	PG	PG	UG	HSC	UG	HSC	UG
Rank 3	PG	UG	UG	UG	PG	UG	HSC	PG	UG	PG	UG	PG
Rank 4	HSC	HSC	HSC	HSC	HSC	HSC	Sec	HSC	PG	HSC	PG	HSC

When the educational status of respondents is considered, respondents with lowest education (secondary education) consider almost all of the factors pertaining to the benefits and problems associated with digital payments as important while deciding on the adoption of digital payments. This means that this category of respondents consider Simplicity of usage of digital mode, Ease of usage, Convenience of digital payment that can happen anywhere and anytime, benefit of track expenses, Safety of not carrying cash are all important. It may be because of the fact that since they have least education, they would be expecting all these factors while going for digital payment tools. However, when the factor 'time saving' is given highest weightage, the respondents with secondary education are ranked the least implying that these category of respondents don't consider time saving as an important benefit in using digital payments. Further this category of respondents attaches greater importance to all the problem factors associated with digital payments when they decide to go for the same. This means that they attach highest importance to Fear of misuse of personal information, Fear of security and safety of financial information, Knowledge required to operate digital payments/transactions, Poor internet connection and Extra service charges levied.

Respondents with higher secondary education have given least importance to almost all the factors in benefit of digital payments and least importance to most factors in problems associated with digital payments, no matter how the weights for those factors are assigned. This means that they do not find the factors pertaining to the benefits associated with digital transactions really beneficial. As far as the problems associated with digital payments, the factors fear of security and safety of financial information and poor internet connection are given higher rank by these individuals. This may be because of the fact that these individuals may have the fear of losing their financial information while making online transaction since they may be in a position to fully understand the security features offered by a genuine website and differentiate it from unscrupulous websites. And further they may also fear the loss money if a financial operation is truncated mid transaction due to poor internet connection. Respondents with UG and PG education level are ranked in second and third positions interchangeably in almost all instances when different weights are assigned to the factors benefits and problems associated with digital payments. This could be because of the fact that respondents with higher

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1 (2024)
https://doi.org/10.52783/eel.v14i1.1095
http://eelet.org.uk

education levels are aware of both the benefits and problems associated with digital payments and are giving almost equal weightage for both in using digital payments.

4.2.c Ranking of respondents based on their Age.

Age	Equal weight for all criterion	Highest weight for B1	Highest weight for B2	Highest weight for B3	Highest weight for B4	Highest weight for B5	Highest weight for B6	Highest weight for P1	Highest weight for P2	Highest weight for P3	Highest weight for P4	Highest weight for P5
Rank 1	31-40	<20	31-40	<20	31-40	31-40	31-40	31-40	31-40	31-40	>40	31-40
Rank 2	<20	31-40	<20	31-40	<20	<20	20-30	>40	>40	<20	20-30	>40
Rank 3	20-30	20-30	20-30	20-30	20-30	20-30	<20	20-30	<20	20-30	31-40	20-30
Rank 4	>40	>40	>40	>40	>40	>40	>40	<20	20-30	>40	<20	<20

The third category of demographic considered was the age of respondents, based on which their perception of benefit and problem associated with digital payments was ranked. The respondents falling in the age category of 31 to 40 year olds have given higher importance for the factors associated with the benefits and problems of using digital payments. However not all factors pertaining to benefits are given higher rank by these individuals. Factors Simplicity and Convenience of anywhere and anytime are given rank 2. It may be because this category of individuals may have more disposable income than other category of respondents and are using digital payments frequently, they are well versed with most digital payment processes, and they don't attach higher importance to the simplicity associated with digital payments. Also, they may have a fixed routine for digital payments for paying monthly bills etc., they may not attach a lot of importance to the Convenience of digital payments being available to them anywhere and anytime. Further these respondents attach very less importance to internet connection implying that they may already have good internet connection so that they don't fear that the transaction may ne truncated prematurely.

Respondents with age greater than 40 years attach least importance to all factors which are considered to be benefits of digital payments. This may be because this category of respondents are more bothered about the problems associated than the benefits. In fact, this category of respondents give higher ranking for the problems associated with digital payments such as Fear of misuse of personal information, Fear of security and safety of financial information, Poor internet connection (rank 1) and Extra service charges levied. While they underplay on the benefits they derive from digital payments, these group of respondents attach more importance to the problems of digital payments. This may be because of the fact that they are more cautious about losing their money, privacy and financial information on internet while making digital transactions and this fear overcomes the perception of benefits.

The next category of respondents who fall in the age group of 20 to 30, rank almost all the benefits associated with digital payments in the same level at Rank 3 and give higher rank for Time saving (Rank 2). Further, Poor internet connection is given more importance by these individuals and other problems are given lesser importance. The results reflect that these young adults take for granted the benefits of digital payment systems and they don't attach big importance to the benefits. This shows that since this category of respondents are in a position to frequently use digital payments; they assume that there is nothing new in this. However time saving nature of digital payments is given more importance by these respondents. They may not want to waste time on conventional means of payments through banks or at the counters of services like Electricity Board, etc and value the time saving nature of digital payments. Further, of all the problems, they consider Poor internet connection to be their biggest concern and all the other problems are not considered to be that important by this category of respondents. This may be because they fear that the transaction may be disturbed because of poor internet connection. However, they are quite confident about data security offered by merchant sites and don't have any fear or inhibition in using the technology.

The respondents in less than 20 have given a mixed opinion about the benefits and problems they perceive about digital payments. They value Simplicity associated with digital payments meaning, they want the digital payment process to be less cumbersome and complicated. They also value Convenience of using digital payments anywhere and anytime more than the other benefits. This category of respondents may use digital payments for playing games, and online shopping. In this case they may expect the payment process to be hassle free and quick. Some payment sites and banks require multilayer authentication which requires the payer to move through multiple layers of payment system to ensure security.

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1 (2024)
https://doi.org/10.52783/eel.v14i1.1095
http://eelet.org.uk

But these respondents may consider this a waste of time as they are quite young and quite confident about the payment processes. Time saving is given the lowest priority because these young respondents may have a lot of time at their disposal unlike their aged counterparts.

Conclusion:

This research endeavoured to list and rank the factors pertaining to benefits and problems of digital payments as perceived by users of digital payments segregated based on the demographics such as the respondents' occupation, education and age. The factors indicating the benefits and problems associated with digital payments were sought from literature and the factors such as Simplicity in use of digital payments, Ease of use of digital payment instruments, Convenience of anywhere and anytime, Ability to track expenses, Safety of not carrying cash and Time saving attribute were considered as the benefits associated with digital payments. Further factors such as Fear of misuse of personal information, Fear of security and safety of financial information, Knowledge required to operate digital payments, Poor internet connection, Extra service charges levied during digital payments were considered as the problems associated with digital payments. To find out the actual perception of benefits and problems associated with digital payments, data was collected from122 respondents who regularly use digital payments from a suburban area namely Virudhunagar in India.

When the responses on the benefits and problems perceived with respect to digital payments was considered based on the occupation of the respondents, the results indicated the fact that self-employed individuals consider the benefits associated with digital payments to strongly influence their decision to patronise the same. These individuals do not attach a lot of importance to the problems of digital payments. However, out of all the problems, they consider Fear of security and safety of their financial information and Extra service charges levied on digital transactions to be important while deciding on a mode of digital payment. This group of individuals want a secure platform to make their transactions and also they do not want to pay any extra charge for using those platforms – meaning that they want the convenience of using physical currency without any additional expenses as it is when using physical currency. This could be an important pointer for banks of other digital payment service providers to consider. If they want to attract individuals from lower educational background, they need to make sure that this group of individuals are assured of the fact that their financial information is safe and secure and additionally they also should not be charged higher price for the services offered.

Private employees do not consider the benefits of digital payments but strongly consider the problems associated with digital payments in their decisions. However they do consider the problems associated with the digital payments as important influencer in them patronising digital payments. Students are ranked in the second position for all factors in considering the benefits of digital payments. In considering the problems, they rank Knowledge required for operating digital payments in the first place and consider Fear of misuse of personal information and Poor internet connection to be second most important factors associated with the problems of digital payments. In the experience of the respondents, most of them observe that any digital payment system is data intensive and requires good internet connection. Since most of these transactions happen on mobile smart phones, when there is a problem in internet connectivity, the payment transaction may create problems such as ghost transaction where money is deducted from the payer but does not reach the payee. Even though this issue is out of purview of the digital payment service providers, the quality of internet connection will have a strong impact on their success. The education level of the respondents was considered. It was found that respondents with the lowest education consider almost all of the factors relating to both benefits and problems associated with digital payments as important while deciding on the adoption of digital payments. In this case, the promoters of digital payments need to concentrate on all the factors while promoting digital payments to people with lower education levels.

Implications:

Managers promoting digital payment systems such as Phonepe, Paytm, Bhim, etc in suburban areas of the country may formulate their strategies such that they can focus on the demographics which are influenced by the relevant benefits of digital payment system or they may focus on alleviating the fear on problems associated with digital payments among the people belonging to different demographics. People in different categories prioritise the benefits and problems associated with digital payments differently. Some consider the benefits over the problems while some others vice versa. Thus it is suggested that the service providers and managers of digital payment systems to tailor make the promotional programs targeting the different demographic groups so that a vast majority of the populace can be convinced to adopt digital payment systems.

TOPSIS being a structured approach to decision making has been engaged in this research to improve and support the managerial decision making by gaining insights about the consumer decision making process. Implications of the findings

of this analysis can be used for strategic planning in the areas of marketing mix and organizational characteristics of digital payment systems.

References:

[1] Centre for Development of Advanced Computing (C-DAC), "Promotion of Payments through cards and digital means," India Development Gateway (InDG) Initiative, , Hyderabad, 2019.

[2] Ministry of Finance, Government of India , "Promotion of Payments through Cards and Digital Means," Department of Economic Affairs, Currency & Coinage Division, New Delhi, Office Memorandum F.No-01/02/2015-Cy.I, 2016, February.

[3] George Mathew, "Digital transactions set to rise four times by 2021: Reserve Bank of India," The New Indian Express, June 2019.

[4] "India made 7,422 cr digital payments in FY22 at 33% growth rate: MeitY," Livemint, March 2022, https://www.livemint.com/technology/tech-news/india-made-7-422-cr-digital-payments-in-fy22-at-33-growth-rate-meity-11648038672792.html.

[5] Boston Consulting Group (BCG), "Digital Payments in India Projected To Reach $10 Trillion by 2026: BCG and PhonePe Pulse Release Report on Digital Payments," Boston Consulting Group (BCG), June 2022, https://www.bcg.com/press/2june2022-digital-payments-in-india-projected-to-reach-10-trillion-by-2026.

[6] Joshua E Blumenstock, Michael Callen, Tarek Ghani, and Lucas Koepke, "Promises and Pitfalls of Mobile Money in Afghanistan: Evidence from a Randomized Control Trial," in Proceedings of the Seventh International Conference on Information and Communication Technologies and Development, Singapore, May 2015, pp. Article 15, pp 1-10, DOI: 10.1145/2737856.2738031.

[7] Niina Mallat, "Exploring Consumer Adoption of Mobile Payments - A Qualitative Study," Sprouts: Working Papers on Information Systems, vol. 6, no. 44, pp. 1-14, 2006.

[8] Tomi Dahlberg, Niina Mallat, Jan Ondrus, and Agnieszka Zmijewska, "Past, present and future of mobile payments research: A literature review," Electronic Commerce Research and Applications, vol. 7, no. 2, pp. 165-181, Summer 2008, DOI: 10.1016/j.elerap.2007.02.001.

[9] Mandeep Kaur and Kamalpreet Kaur, "Development of Plastic Cards Market: Past, Present and Future Scenario in Indian Banks," Asia Pacific Business Review, vol. 4, no. 4, pp. 62-74, October 2008, DOI: 10.1177/097324700800400406.

[10] Tapan Kumar Nayak and Manish Agarwal, "Consumer's Behavior in Selecting Credit Cards," Journal of Services Marketing, vol. 6, no. 4, pp. 49-59, December 2008.

[11] Manuela Pulina, "Consumer behaviour in the credit card market: a banking case study," International Journal of Consumer studies, vol. 35, no. 1, pp. 86-94, January 2011, DOI:10.1111/j.1470-6431.2010.00939.x.

[12] Ashish Das and Rakhi Agarwal, "Cashless Payment System in India - A Roadmap," Indian Institute of Technology Bombay, Mumbai, Technical Report 10054/1732, 2010.

[13] O O Adeoti and K O Oshotimehin, "Factors influencing consumers adoption of point of sale terminals in Nigeria," Journal of Emerging Trends in Economics and Management Sciences, vol. 2, no. 5, pp. 388-392, October 2011.

[14] Omaima Bamasak, "Exploring consumers acceptance of mobile payments - An empirical study," International Journal of Information Technology, Communications and Convergence, vol. 1, no. 2, pp. 173 - 185, March 2011, DOI: 10.1504/IJITCC.2011.039284.

[15] Bansi Patel and Urvi Amin, "Plastic Money : Roadmay Towards Cash Less Society," PARIPEX - Indian Journal of Research, vol. 1, no. 11, pp. 95-99, November 2012, DOI: 10.36106/paripex.

[16] Kangkan Acharyya, "Demonetisation: Digital transactions meet roadblocks in rural India, effects felt everywhere," FirstPost, December 2016.

[17] Samrat Sharma, "Cash still king, demonetisation effect gone; digital payments rising but face two key roadblocks," Financial Express, May 2020.

[18] Press Trust of India, "'Digital India' faces multiple roadblocks," Economic Times, January 2017.

[19] Olalekan S Akinola, "Cashless Society, Problems and Prospects, Data Mining Research Potentials," International Journal of Computer Science and Telecommunications, vol. 3, no. 8, pp. 49-55, August 2012.

[20] Tomi Dahlberg, Niina Mallat, and Anssi Öörni, "Consumer Acceptance of Mobile Payment Solutions-Ease of Use, Usefulness and Trust," in Second International Conference on Mobile Business, Vienna, Austria, Vienna, Austria, 2003, pp. 211-216.

[21] Vibha Kaw Raina, "Overview of Mobile Payment: Technologies and Security," in Electronic Payment Systems for Competitive Advantage in E-Commerce, Francisco Liébana-Cabanillas et al., Eds. Hershey, Pennsylvania, Pennsylvania, USA: IGI Global, 2014, pp. 186-222, DOI: 10.4018/978-1-4666-5190-6.

[22] Michael Groß, "Mobile shopping: a classification framework and literature review," International Journal of Retail & Distribution Management, vol. 43, no. 3, pp. 221-241, 2015, DOI: 10.1108/IJRDM-06-2013-0119.

[23] Mary Anne Cristobal, Jefferson C Malayang, Marie Tonie Sampan, and Micah Erika Solina, "A Research Study on the Effects of Cashless Transactions on People's Spending Behavior," College of Saint Benilde, Manila, Manila, Thesis 2018 April.

[24] Pushp P Patil, Nripendra P Rana, and Yogesh K Dwivedi, "Digital Payments Adoption Research: A Review of Factors Influencing Consumer's Attitude, Intention and Usage," in Conference on e-Business, e-Services and e-Society: Challenges and Opportunities in the Digital Era, vol. 11195, Cham, Switzerland, October 2018, pp. 45-52, DOI: 10.1007/978-3-030-02131-3_6.

[25] Jaehyeon Jun, Insu Cho, and Heejun Park, "Factors influencing continued use of mobile easy payment service: an empirical investigation," Total Quality Management & Business Excellence, vol. 29, no. 9-10, pp. 1043-1057, June 2018, DOI: 10.1080/14783363.2018.1486550.

[26] Odi Nwankwo and Onyekachi Richard Eze, "Electronic Payment in Cashless Economy of Nigeria: Problems and Prospect," Journal of Management Research, vol. 5, no. 1, pp. 138-151, 2013, DOI:10.5296/jmr.v5i1.2650.

[27] Wendy Ming-Yen Teoh, Siong Choy Chong, Binshan Lin, and Jiat Wei Chua, "Factors affecting consumers' perception of electronic payment: an empirical analysis," Internet Research, vol. 23, no. 4, pp. 465-485, August 2013, DOI: 10.1108/IntR-09-2012-0199.

[28] Olena Slozko and Anna Pelo, "The Electronic Payments as a Major Factor for Further Economic Development," Economics and Sociology, vol. 7, no. 3, pp. 130-140, September 2014, DOI: 10.14254/2071-789X.2014/7-3/13.