# "AN ANALYSIS ON DIGITAL PAYMENT SYSTEM (GOOGLE PAY) USING UNIFIED THEORY OF & USE OF TECHNOLOGY (UTAUT) MODEL"

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**Abstract:**
With the announcement of demonetisation there has been rapid increase in the use of electronic wallets and mobile wallets. With the invention of various type of electronic payment systems, the payment is been very much easily without even carrying the physical wallet. The digital payment method has become one of the crucial methods in the world, as same goes for the Goggle pay services which is affordable, without many documentations and save time of the user. This paper wants to give light to UTAUT (Unified theory of Acceptance and Use of Technology Model) This research's present four new external factors into UTAUT model, namely awareness, privacy, security, and culture. For the research purpose the data were collected from 327 respondent and were analysed. It was found that privacy, culture (uncertainty avoidance) and peer influence have a worthwhile and positive relationship with the intention to use Google pay. However, effort expectancy, subjective norms and performance expectancy failed to contribute to the adoption of the Google pay.

## 1. Introduction:

According to the **Hartmaan (2006)** who has given the definition of the digital payment as" all those payments which are started, processed, and acquired electronically". The emergence of the online e commerce and more frequent purchase of the product online raised the issue of payment, which was the reason for the emergence of the digital payment. The first solution for the electronic payment e.g., Online banking which are heavily motivated by the establishment of account-based banking transfer. Due to which there has been change and convenient solution that is relevant to the requirement of the merchant and the customer. **(Dahlberg et al 2008).** The mechanism of transferring a stipulated sum of money from one party to another party with the help of electronic platform/devices is popularly known as digital payment. **(Lim 2008; weir et al 2006).**

Mobile Payment are often outlined as, "a shift of cash for the promise created by the vendor to produce smart wherever the shifting of the money is carried by the electronic devices is thought as electronic payment" **(de bel and geographical region 2011).** The place of the giver and the carrying configuration is not essential: they may not be movable. **(de Bel and Gaza 2011).** According to **Mallat (2007)** he gave a knowledge regarding the digital payment as "employ the devices to conduct a payment dealing during which cash or funds are circulated from remunerator to receiver via associate degree negotiator, or directly while not associate degree intermediary". Once the main focus is on utilising the digital equipment for using existing online banking and shopping opportunities, now, it has been transformed towards the launching the new digital application that function as a close substitute for well launched payment portfolio like card, card payment, or checks. Not only the financial institution engages in new digital payment system but also huge and giant network companies, like Google and Amazon. **(Contini et al. 2011).** Peer-to-peer payments, person-to-person payments, private-to-private, or P2P payments area unit another sub-category of Digital Payments. These terms label payments between non-public people. **(Hartmann 2006)** whereas cash transfers to a checking account take some time, P2P payments offer immediate transactions. the instant the payment has been initiated; the service supplier validates the payment in order that the receiver will trust in receiving the cash though it's not nevertheless been additional to the bank account. **(Bradford and Keeton 2012).** Today, 3 models of peer-to-peer payments can be distinguished **(Bradford and Keeton 2012).** Firstly, a nonbank-centric model where ''an individual command a nonbank negotiator like PayPal to transport funds to a different consumer''. an obstacle of this model is that the incontrovertible fact that customers need to sign on and register mistreatment their real banking information—which could result in extra work and safety considerations towards a

nonetheless unknown service provider. Secondly, a bank-centric model wherever ''the individual interacts directly with a bank to request a transfer from the checking account of the individual to the bank account of the recipient''. Here, users needn't to sign on with another service provider however build use of services of their bank so safety considerations are rather minimum. However, customers of banks that don't supply such services would have to be compelled to change their bank. Thirdly, a card-centric model wherever ''the payment is processed entirely over a mastercard or open-end credit network''.

The terms e-wallet and digital case describe a digital storage for cash that satisfies most tasks of a physical wallet: holding identification data (e.g., ID card, driver's license), facilitating money and credit payments, and storing temporary tokens (e.g., vouchers, bus tickets). These functions may be enforced digitally thus that associate e-wallet is in a position to switch a physical case (**Ebringer et al. 2000**). A digital wallet integrated to a mobile device, e.g., a wise phone, has the potential to switch not solely ancient payment functions however additionally analog case things, like identity cards, tickets, and alternative content things (**Contini et al. 2011; Shetty et al. 2014).**

## 2. Literature Review

The present analysis directs to analyse the cause of Google Pay acceptance within the Indian context by mistreatment UTAUT2 model. Consequently, this study points out variety of vital factors that influence the intentions of staff within the public sector to adopt Google Pay services. See able of this, the present section focuses on the discussion of the foremost vital m-payment systems acceptance predictors. Those predictors are classified supported the constructs of the UTAUT2 model and alternative planned factors. Hence, the researchers forecast that this analysis could contribute to UTAUT2 model because of the theoretical contribution.

In this regard, The UTAUT was initially projected by Venkatesh, Morris, Davis and Davis in an info technology acceptance context. (**V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003**). UTAUT model has been developed supported the combination of eight major theories and models of technology acceptance [27]. However, UTAUT combines the technology acceptance domain into one theory with activity intention and user's behaviour with the main dependent variables. This model tries to beat the problems faced by info technology researchers to develop their studies' framework to understand users' acceptance of the technology (**V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003**)

The UTAUT model has four mains compose that influence behavioural intention (BI) to apply technology and usage behaviours. The four main constructs embrace Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC). Based on UTAUT, activity intention to use technology is influenced by variety of vital factors that are: PE, EE, and SI, whereas the usage of technology is set by FC (**V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003**) (**V. Venkatesh, J.Y. Thong, X. Xu2012**) (**P.J.B. Tan2013**). The relationships between the constructs of activity intention and behaviour of use are qualified by four key factors as well as gender, age, experience, and voluntariness of use (**V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003**).

At a final stage, (**V. Venkatesh, J.Y. Thong, X. Xu2012**) improved the UTAUT model based on their conclusions from a study that has been conducted in India. They projected 3 new constructs to the initial UTAUT model forming the advanced UTAUT2 model. The primary construct is indulgent Motivation (HM), the second construct is worth price (PV), and therefore the third construct is that the Habit (HT). (**V. Venkatesh, J.Y. Thong, X. Xu2012**) claimed that the recommended additions in UTAUT2 exhibited important changes in the variance explained in activity intention and technology use. In total, the new UTAUT2 model posits seven constructs because the determinants of activity intention and use of knowledge technology. The constructs embrace performance expectancy, effort expectancy, social influence, facilitating conditions, indulgent motivation, worth price and habit. they're qualified in numerous degrees by gender, age, and experience.

In this particular research, habit was eliminated, because Google Pay users have no previous experience operating the service and it's not complemented for the fun, enjoyment, and entertainment.

Yet, based on the advice from **(V. Venkatesh, J.Y. Thong, X. Xu2012)** to broaden the

theoretical prospect of UTAUT2 model, this study calculated the conceptual analysis model by incorporating the subsequent constructs: Subjective Norm (SN), Peer Influence (PI), Awareness (AW), Security (SE), Privacy (PR) and Culture (CU), to increase UTAUT2.

### 2.1 Performance Expectancy

Performance expectancy if given a definition then it can be expressed as "level to which an individual trust that utilising the system will assist him or her to achieve surplus in job performance" **(V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003).** PE is a powerful predictor of developmental intention in both elective and compulsory setting in technology context **(V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003).** Copious of past studies in the area of m-payment confirmation found out that PE is vital in making us known the desire to use m-payment system.

**H1.** There is worthwhile relationship between performance expectancy and intention to use Google pay.

### 2.2 Effort Expectancy

According to UTAUT model, applied science is outlined as "the degree of ease associated with the utilisation of the system" **(V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003).** Effort Expectancy has a important influence on the activity intention of a user to apply information technology **(V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003).** Therein sense, once the system's users think that this method is straight forward to use, it'll encourage their intention to use m- payment system additionally. (**A.A. Alalwan, Y.K. Dwivedi, N.P. Rana 2017).**

**H2.** There is a meaningful association between effort expectancy intention to use Google Pay

### 2.3 Social Influence

Social Influence is outlined as" the degree to that a private perceives the importance of other to trust that he or she ought to use the new system" **(V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003).** In a very connected context, social factors construct could be a smart predictor to the employment of the data technology. **(V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003).**

**H3.** There is a worthwhile relationship between social influence and intention to use Google pay

### 2.4 Facilitating Condition

Facilitating Condition is outlined as "the degree to that a personal believes that an organisational and technical infrastructure exists can facilitate him/her to use the system" (V. **Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003).** Facilitating condition's construct may be a great predictor of victimisation info technology **(V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis 2003).** On paper, pervious studies within the field of m-payment system acceptance and knowledge system have found that facilitating condition are often useful and vital on the intent to use m-payment system.

**H4.** There is a meaningful association between facilitating condition and intention to use Google Pay.

### 2.5 Price Value

An important distinction between a client use setting and therefore the structure use setting, wherever UTAUT was developed, is that buyers sometimes bear the financial value of such use whereas workers don't. the price and rating structure could have a major impact on consumers' technology use. as an example, there's proof that the recognition of short electronic communication services (SMS) in China is thanks to the low rating of SMS relative to alternative kinds of mobile net applications (**Chan, K. Y., Gong, M., Xu, Y., and Thong, J. Y. L.).** In market research, the financial value / value is sometimes conceptualized beside the standard of product or services to see the perceived worth of pro- ducts or services (**Zeithaml 1988**). we have a tendency to follow these concepts and outline value worth as consumers' psychological feature exchange between the

perceived advantages of the applications and therefore the price applying them **(Dodds, W. B., Monroe, К. B., and Grewal, D)**

**H5**. There is a worthwhile relationship between price value and intention to apply Google pay.

### 2.6 Awareness

Awareness is outlines because the degree to that a client is alert to electronic payment channel (**I. Lee, B. Choi, J. Kim, S.J. Hon 2007**). In keeping with Rogers (**E. Rogers 1995.**)**,** once a personal knows regarding the existence of a brand-new plan, he or she might need insufficient info regarding it. So, spreading monetary awareness, financial attainment, and building confidence area unit thought of as vital cause for the confirmation of the m-payment system. (**Central bank of Jordan, Spreading Financial and Banking Literacy, Retrieved from, 2017**). This certifies what every of **(H Mohammadi 2015) and (C Chen 2013)** pointed in their respective studies that awareness is a vital issue resulting in the adoption of the mobile banking industry.

**H6**. There is a worthwhile relationship between awareness and intention to adopt Google pay.

### 2.7 Security

Security is printed as "the recognised safety of financial information such as Mastercard details, as entered into positive websites" (S.A. Macht 2014) in this regard, the protection of financial information throughout digital transaction which is examined as a key cause for the believe in Web-based relationships.

**H7.** There is a worthwhile relationship between security and intention to adopt Google pay

### 2.8 Privacy

Privacy is outlined as the ability of the internet sites to gather a various vary of information from users, still because the problems around loss or perhaps misuse of this information" (S.A. Macht 2014) as per (A Mukherjee, P. Nath 2007) internet sites square measure thought- about trustworthy if they shield the user's personal details.

**H8.** There is a worthwhile relationship between privacy and intention to adopt Google pay.

### 2.9 Culture

Culture will be outlined as" a collective programming of the mind that differentiate the member of 1 human cluster from another" (G.H.Hofstede, H. Geert 1980) Following over thirty decades of consumption, academics as well as management teams still use Hofstede's culture dimension to explain the variations between national cultures and have utilized identical to live new technologies like m-payment system acceptance (C. Tam, T. Oliveira 2019). Specifically, Hofstede's classification contained 4 original dimensions: uncertainty shunning, power distance, masculinity versus trait and individualism versus collectivism. Moreover, one amongst Hofstede's cultural dimension that has been selected and incorporated in analysis model was uncertainty shunning, since it's appropriate and incorporates a study impact on the acceptance of Google pay system. It will be delineated because the level to that the members World Health Organisation belong to a culture feel vulnerable by things that square measures unsure. (G. Hofstede 1999)

**H9**. Culture (uncertainty avoidance) moderates the relationship between social influence and intention to use Google pay.

Figure:1 Proposed Model
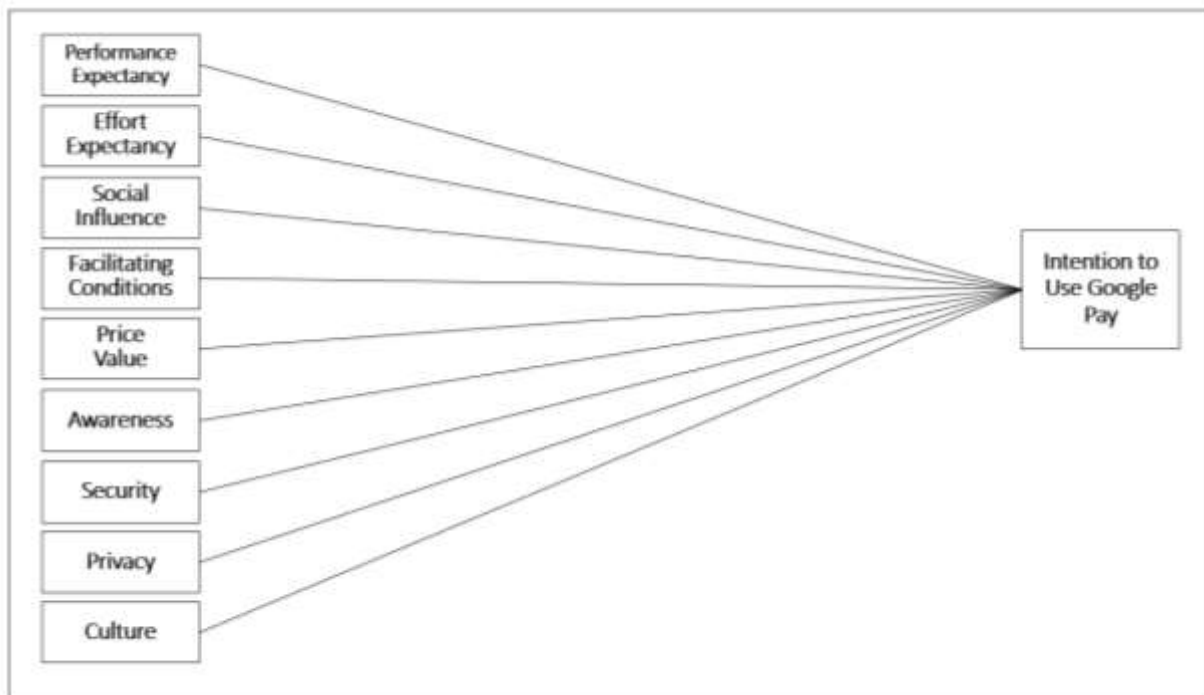
### 3. Research Methodology

In order to understand the various factors and the variable which affect the usage of the Google pay services a set of questionnaires were circulated. In total 327 responses were received.

### 3.1 Frequency table

**Table:1 Frequency Table**

| Age | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| **Valid** | Below 20 | 23 | 7.0 | 7.0 | 7.0 |
| | 21-30 | 227 | 69.4 | 69.4 | 76.5 |
| | 31-40 | 48 | 14.7 | 14.7 | 91.1 |
| | 41-45 | 29 | 8.9 | 8.9 | 100.0 |
| | Total | 327 | 100.0 | 100.0 | |

For the study purpose, In Table:1 there were successfully responses of 327 respondent in which there were 191 (58.4%) male respondent and 136 (41.6%) female respondent. Further classifying this gender in age there were 23(7%) who are aged below 20, there were 227 (69.4%) who aged between 21 to 30, there were 48 (14.7%) who are aged between 31-40 and there were 29 (8.9%) respondent who are aged between 41- 45.

**Table:2 Education Details**

| Education | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| **Valid** | H.S.C. | 34 | 10.4 | 10.4 | 10.4 |
| | Under Graduate | 170 | 52.0 | 52.0 | 62.4 |
| | Post Graduate | 111 | 33.9 | 33.9 | 96.3 |
| | Doctorate | 12 | 3.7 | 3.7 | 100.0 |
| | Total | 327 | 100.0 | 100.0 | |

Further classifying this In Table:2 respondent into their education then 34(10.4%) respondents have completed their higher education, while 170 (52%) respondents have completed their under graduate,

111 (33.9%) respondents have completed their post graduate and 12(3.7%) have completed doctorate.

**Table:3 Monthly Spent**

| Monthly Spent | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Below 5000 | 150 | 45.9 | 45.9 | 45.9 |
| | 5000-15000 | 82 | 25.1 | 25.1 | 70.9 |
| | 15000-30000 | 58 | 17.7 | 17.7 | 88.7 |
| | Above 30000 | 37 | 11.3 | 11.3 | 100.0 |
| | Total | 327 | 100.0 | 100.0 | |

In Table:3 The monthly spending of the respondents was also collected to know how much a respondent spends in a month using Google pay, 150 (45.9%) respondents spend below 5000 per month while 82(25.1%) respondents spend between 5000-15000 on monthly basis, 58(17.7%) respondents spend between 15000 – 30000 on monthly basis and 37(11.3%) spend more than 30000 in a month using Google pay services.

The questionnaire was divided into two categories, in which the first segment was personal details and followed by simple questions in which they were given options like strongly disagree/ disagree/ neutral/ agree/ strongly agree. The detail about the scales used and their authenticity is given below:

**Table:4 List of Variables**

| Scale | Number of items | Adopted from |
|---|---|---|
| Performance expectancy | 2 | Bhuasiri et al., (2016) and V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis (2003) |
| Effort expectancy | 2 | Bhuasiri et al., (2016) and V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis (2003) |
| Social influence | 2 | Bhuasiri et al., (2016) and V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis (2003) |
| Facilitating Condition | 1 | V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis (2003) |
| Price value | 1 | V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis (2003) |
| Awareness | 1 | I. Lee, B. Choi, J. Kim, S.J. Hon, (2007) |
| Security | 1 | S.A. Macht |
| Privacy | 1 | S.A. Macht |
| Culture | 1 | G.H. Hofstede, H. Geert 1980. |

For the proper analysis of the factors which affect the use of Google pay services various test were conducted in SPSS. The factors of UTAUT model (performance expectancy, social influence, effort expectancy, facilitating condition, price value, awareness, security, privacy. culture) were accumulated in the research and were considered as independent variable. Intention/ motive to use google pay services was treated dependent variable in analysis.

**Table:5 Regression Analysis using SPSS**

| Model Summary | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .631a | .398 | .387 | .54437 |
| a. Predictors: (Constant), PE_Score, PR_Score, SN_Score, PI_Score, EE_Score, UA_Score | | | | |

It can be seen from the table:5 that 5 independent variables i.e. Performance Expectancy (PE), Perceived Risk (PR), Security (SN), Privacy (PR) & Effort Expectancy (EE). Here we run the data using SPSS Version 26.0 We have done Regression Analysis & We found that the R=0.631, & R Square=0.398, Adjusted R Square =0.387 & Standard Error of the Estimate =0.544 so we can say that 39.8% of the variation in intention to use Goggle Pay services. A comparison of R square with the previous research carried out in India was in a similar range.

**Table:6 ANOVA Analysis**

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 62.719 | 6 | 10.453 | 35.275 | .000b |
| | Residual | 94.827 | 320 | .296 | | |
| | Total | 157.546 | 326 | | | |
| a. Dependent Variable: BI_Score | | | | | | |
| b. Predictors: (Constant), PE_Score, PR_Score, SN_Score, PI_Score, EE_Score, UA_Score | | | | | | |

In Table:6 We have analyze Anova table using SPSS using various variable. This Variables are Behavioural Intention (BI) is Dependent Variable & Predictors are Performance Expectancy (PE), Perceived Risk (PR), Security (SN), Privacy (PR), Effort Expectancy (EE) & Usage (UA) Here we found that the overall model was a great fit as per (F=35.275; p<0.05)

**Table:7 Results of Hypothesis Testing**

| No. | Relationship | | Standard Beta | Standard Error | T-value | P-value | Sig. | Decision |
|---|---|---|---|---|---|---|---|---|
| | IV | DV | | | | | | |
| H1 | PE | BI | 0.194 | 0.075 | 2.625 | 0.009 | Significant | Supported** |
| H2 | EE | BI | 0.018 | 0.042 | 0.410 | 0.683 | Not Significant | Not supported |
| H3 | SI | BI | 0.317 | 0.056 | 5.446 | 0.000 | Significant | Supported *** |
| H4 | FC | BI | 0.072 | 0.06 | 1.173 | 0.241 | Not Significant | Not supported |
| H5 | PV | BI | 0.109 | 0.057 | 1.877 | 0.061 | Significant | Supported* |
| H6 | AW | BI | 0.118 | 0.076 | 1.517 | 0.130 | Not Significant | Not supported |
| H7 | SE | BI | 0.130 | 0.045 | 2.855 | 0.004 | Significant | Supported ** |
| H8 | PR | BI | 0.214 | 0.07 | 2.943 | 0.003 | Significant | Supported ** |
| No. | IV | MOD DV | | | | | | |

| H9 | SI | CU | BI | 0.025 | 0.037 | 0.672 | 0.502 | Not Significant | Not supported |

Note 1: The direct and the indirect hypothesis is tested at two-tailed.
Note 2: Significant at $P*** = \, < 0.001$, $p** < 0.05$, $p* < 0.10$, and N.S. $p = \, > 0.10$.

**Figure:2 The significant and insignificant results regarding the hypotheses testing (T-value).**
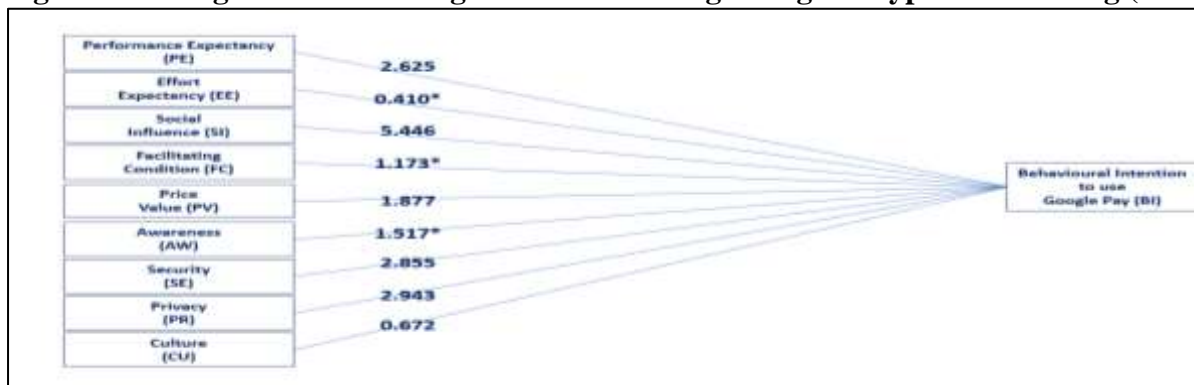


 The above table's result shows us that Performance Expectancy (B=0.194: p<0.05), Social influence (B=0.317: p≤0.05), Price Value (B=0.109: p<0.05), Security (B=0.130: p<0.05) & Privacy (B=0.214: p<0.05) were Supported & to have a worthwhile relationship with the with the intention to use Google pay. Thus, the hypothesis was confirmed. Meanwhile effort expectancy (B=0.018: p>0.05), Facilitating Condition (B=0.072: p>0.05) and Awareness (B=0.118: p>0.05) have no worthwhile relationship with the intention to use of Google pay services.

**Conclusion**

online payment services are gaining a lot of importance in today's era as people are moving towards the cashless zone people do not tend to carry physical wallet as all the things can be done just in one click. The main purpose to conduct this research was to Analise the factors affecting the intention of adopting the google pay in Gujarat. It was concluded that the factors such as privacy, culture (uncertainty avoidance) and peer influence were positively associated with the intention to adopt the google pay. This survey revealed that online payment system helps to reduced the complicated paperwork, time saving, easy to use and most convenient mode of payment. However, there are some loop holes and there is further scope for the improvement in making the google pay services more cost effective and efficient.

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