International Journal of Business and Management Invention (IJBMI)
ISSN (Online): 2319 – 8028, ISSN (Print): 2319 – 801X
www.ijbmi.org || Volume 7 Issue 2 || February. 2018 || PP—34-42

Intention To Adopt 4G Mobile Services In India: An Investigation of The Moderating Effect of Gender Through The Decomposed Theory of Planned Behaviour

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Abstract: *The purpose of the study was to investigate the determinants of intention to adopt 4G mobile services and to understand if gender is a moderator in the adoption of 4G mobile services. Data collected from 466 respondents in India were tested against the research model using Correlation and Hierarchical regression analysis. The proposed model was partially supported by the empirical data. However, gender did not emerge as a significant moderator on the behavioral intention towards 4G mobile services adoption. The findings of this research study offer significant implications for 4G mobile service providers, marketers and researchers.*

Keywords : *4G mobile services, Adoption, Decomposed theory of planned behaviour, Gender moderation*

Date of Submission: 25-01-2018 Date of acceptance: 19-02-2018

I. INTRODUCTION

Technology has become an integral part of everyone's lives. Telecommunications play a crucial role from small businesses to multinational companies with the usage of recent trends in technology. Telecommunications is the transmission intended by the users among the points or users specified by them. In the past decade, world telecom industry has seen drastic improvement in the adoption of mobile services in their day to day lives. Increasing population and economic growth enables the rapid growth of telecom industry. Usage of mobile services has been ubiquitous and omnipresent as it enhances the lives of human in personal and official works. A statistical report by ITU statistics (2017) states that India has seen substantial increase in mobile-cellular telephone subscriptions from 3.57 million in 2000 to 1.13 billion in 2016 [1].

Previous research in mobile services adoption indicate that demographic characteristics are less important compared to the technology characteristics itself in determining acceptance or rejection of technology by users [2]. In the trending mobile environment, demographics (that is, gender, age, income and education) may play a significant role in adoption of 4G mobile services. Despite market potential for 4G mobile services, age and gender gap in technology adoption has been the worldwide concern. As widespread as the use of mobile phones, it is expected that there may be gender differences in the adoption of 4G mobile services.

This study would be a meaningful contribution to the research through the analysis of the role of demographic variables such as age and gender on 4G mobile services adoption. This study investigates the influence of the Decomposed Theory of Planned Behaviour (DTPB) constructs on gender differences in 4G mobile services adoption and aims at explaining the factors that influence adoption of 4G mobile services in India. More specifically, it investigates the gender differences and the role ofDTPB in predicting the intention to adopt 4G mobile services. The paper is structured as follows: First, technology adoption literature is reviewed. Second, the context of 4G mobile services in India is explored. Third, research framework and hypotheses are developed followed by research method and design. Research findings are presented and discussed in the subsequent sections. Finally, the paper concludes with a discussion and implications for future research.

II. LITERATURE REVIEW

2.1 TECHNOLOGY ADOPTION THEORIES

Many research studies conducted to understand Information Systems acceptance are influenced by intention-based research models derived from Cognitive Psychology. Significant researches emerged from the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM). TRA is based on the proposition that people's actual behavior is determined by their intention to behave in a certain way, and that intention is influenced both by their own attitudes and by the subjective norm.

TPB extended from TRA accounts for the internal and external constraints on behavior. TAM attempts at predicting people's intentions to use a technology based on their perceptions of its ease of use and usefulness.

TAM, TPB and DTPB can be considered appropriate in finding the IT usage behaviour and behavioural intention towards IT usage. However, TPB and DTPB outperformed TAM by providing more explanatory power when user's behavioural intention is included in the study. More precisely, TAM is capable of predicting IT usage behaviour but DTPB gives more insights on behavioural intention by considering normative and control beliefs into account. As a result, DTPB can supervise the implementation process of an IT system [3]. Several studies attempted to explain adoption and usage of various technologies have added value towards exploring further on technology adoption such as IT acceptance [4], e-textbook adoption [5], Internet Tax Filing [6], Mobile payment services [7] and 4G Mobile services [8].

2.2 ROLE OF GENDER

Gender disparity in attitude and usage towards Information Technology (IT) usage has seen significant focus among researchers. Many studies have resulted in more number of men involved actively in IT usage compared to women. The results from a study on m-learning adoption reveals that age differences moderate the effects of effort expectancy and social influence on m-learning use intention, and that gender differences moderate the effects of social influence and self-management of learning on m-learning use intention [9]. The study on SMS included how the gender moderates the effects of the two factors on the SMS adoption, showing that the effect of perceived ease of use on the SMS adoption is stronger for female [10]. The study on consumer's adoption of mobile services resulted in users' demographics and personality traits showing a significant impact on their mobile service adoption behavior [11].

The individual differences in explaining technology-oriented behaviours were not given due importance in the technology adoption models although the variables associated were significant [12, 13, 14]. Empirical evidences demonstrated that Subjective Norm was more salient for women in early stages of experience in TAM [15]. Only a few research models have focused on the how the demographic factors may directly influence the adoption intention or moderate the relationship between intention and other variables [16, 17]. Several studies have reported that there are differences between men and women in technology adoption [15, 17]. Studies on perceptions and usage of IT found no significant difference between men and women [18]. Previous studies have been undertaken on investigating the antecedents of consumer adoption [31]. In a study on analyzing the influencing demographic factors on adoption level of Mobile banking applications in Jordan, demographic factors were found to be the most significant variables that influence the use and adoption of any new technology [19].

There is currently no research pertaining to gender differences in behavioural intention to 4G mobile services adoption in India and therefore gaps exist in the understanding of this aspect. Due to the multipurpose applications of 4G, exploring gender differences leading to 4G mobile services acceptance can provide sufficient validation to practitioners [8]. The research question this study focused on is: *Does gender moderate the effects of the antecedents of behavioural intention towards 4G mobile services adoption by users in India?* The aim of this study was to fill the gap that currently exists in research by using the Decomposed Theory of Planned Behaviour (DTPB) to ascertain if gender does influence the determinants of 4G mobile services adoption intention by mobile users in India.

I. MOBILE SERVICES INDUSTRY IN INDIA

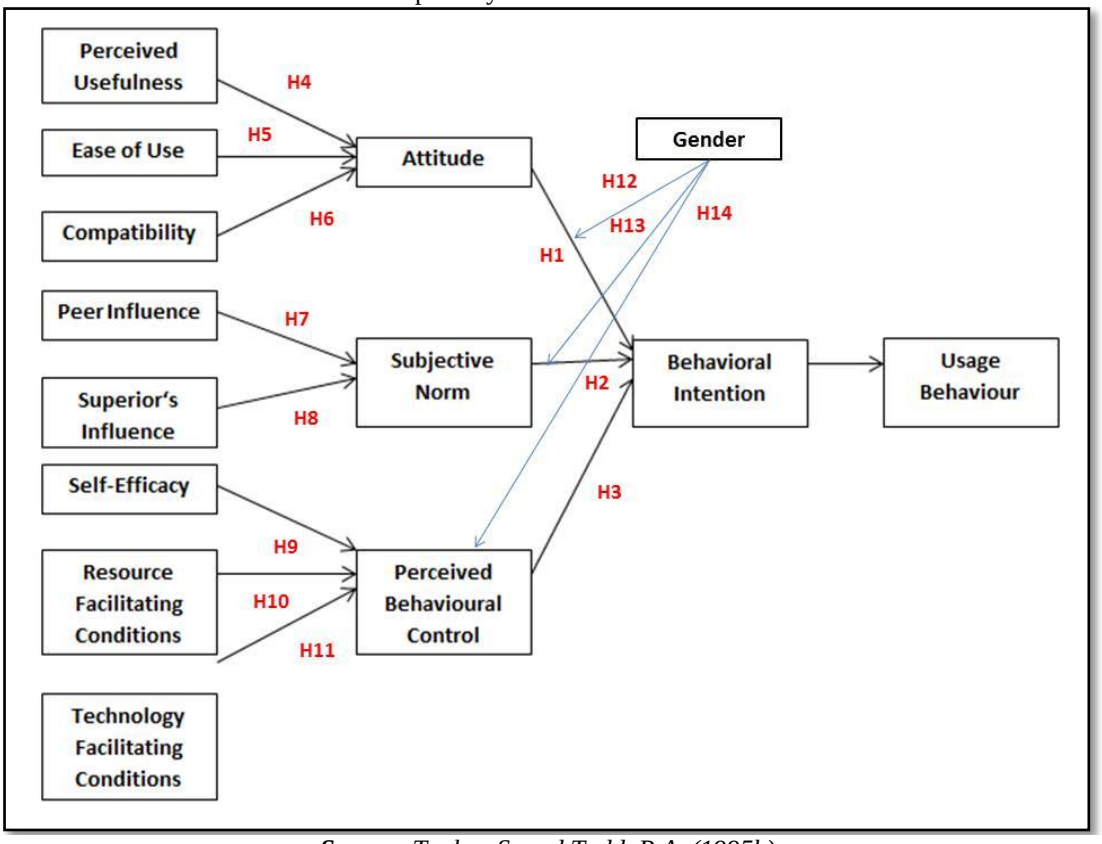
Telecommunications is the one of the fastest growing industries in India. At present, India stands second in the world telecom market. Indian telecom sector confines not only to basic telephony but also offers internet, SMS, wireless or fixed broadband, cable TV. The major growth avenue for telecom sector is that the mobile subscribers are getting addicted to data connectivity and speed. Owing to the ongoing demand for high bandwidth services and apps, this industry is pressurized to increase the availability and quality of broadband connectivity. This enables the telecom players to focus on technological advancements to handle persistent demand, long term spectrum availability and efficiency, etc.

A growing trend in India suggests that the 3G mobile markets are slowly reaching the saturation phase, and 4G mobile markets are picking up drastically due to the increasing competition and new service offers provided by the mobile operators to sustain their market potential. The entry of a private mobile operator offering 4G mobile services in India has recently intensified competition and provoked subscriber additions and data uptake. New innovative mobile applications available for the consumers to carry out their personal, official, studies and research works in a more efficient, simple and time-consuming manner have made the telecom operators face the rivalry shifted from 3G to 4G mobile services. According to a report, India has envisaged 150 million 4G users followed by China and U.S. due to explosive growth in data usage and attractive offers from operators [20]. Ericsson Mobility report states that India is likely to have 520 million 4G subscribers by the year 2022 [21]. Despite huge contributions on the body of literature on mobile services adoption in recent

years, there is inadequate scholarly research on consumer demographics and acceptance of 4G mobile services [3, 19].

II. RESEARCH FRAMEWORK AND HYPOTHESIS

Taylor and Todd (1995) compared TRA, TPB and TAM using student resource centre with structural equation modelling to assess which model explains and helps well to understand the usage of Information Technology [22]. They created the Decomposed Theory of Planned Behaviour (DTPB) as an effort to fully describe the elements of technology acceptance. DTPB added antecedents to the major constructs Attitude, Subjective Norms and Perceived Behavioural Control along with the key constructs of TAM: Perceived Usefulness and Perceived Ease of Use. The primary factor in all these models is the Behavioural Intention.



Source: *Taylor, S. and Todd, P.A. (1995b)*
Fig.1: *Decomposed Theory of Planned Behaviour*

Table 1: *Research hypotheses and supporting studies*

	Hypotheses	**Supporting studies**
H_1	Attitude -> Behavioural Intention	Mathieson (1991); Taylor and Todd (1995); Ajzen (2001)
H_2	Subjective Norms -> Behavioural Intention	Mathieson (1991); Taylor and Todd (1995); Ajzen (2001)
H_3	Perceived Behavioural Control -> Behavioural Intention	Mathieson (1991); Taylor and Todd (1995); Ajzen (2001)
H_4	Perceived Usefulness -> Attitude	Davis (1989); Taylor and Todd (1995)
H_5	Perceived Ease of Use -> Attitude	Davis (1989); Taylor and Todd (1995)
H_6	Compatibility -> Attitude	Mathieson (1991); Taylor and Todd (1995)
H_7	Peer Influence -> Subjective Norms	Fishbein and Ajzen (1975); Ajzen (1991); Taylor and Todd (1995)
H_8	Superior Influence -> Subjective Norms	Fishbein and Ajzen (1975); Ajzen (1991); Taylor and Todd (1995)
H_9	Self-Efficacy -> Perceived Behavioural Control	Ajzen (1991); Taylor and Todd (1995)
H_{10}	Technology Facilitating Conditions -> Perceived Behavioural Control	Bandura (1986); Ajzen (1991); Taylor and Todd (1995)
H_{11}	Resource Facilitating Conditions -> Perceived Behavioural Control	Bandura (1986); Ajzen (1991); Taylor and Todd (1995)

Figure 1 illustrates the DTPB research model for explaining the intention to adopt 4G mobile services. The constructs and antecedents of behavioural intention along with Gender as a moderating factor are considered in this research study. Eleven hypotheses and their supporting studies are summarized in Table 1. DTPB, supported by Diffusion of Innovation Theory provides a comprehensive overview as it includes technical, social, psychological and certain adoption factors. DTPB provides increased explanatory power and a precise understanding of the behaviour and also facilitates a still more focused examination of the relationship

among the variables which influence the adoption and use of new technologies [18]. This theory also tried to show how many different factors ultimately lead to the behaviour of a person to use a technology.

Research on technology usage regarding gender denotes that men's intentions to use technology are significantly influenced by their perception of its usefulness [23]. A study by [24] found that men scored higher than women on their perception of facilitating conditions. Similarly this study intends to ascertain the moderating role of gender on the relationship between attitude and behavioral intention, subjective norms and behavioral intention and facilitating conditions and behavioral intention. Thus the following additional hypotheses are proposed to test the moderating effect of gender:

H_{12}: Gender will significantly moderate the relationship between Attitude and Behavioral intention to adopt 4G mobile services.

H_{13}: Gender will significantly moderate the relationship between Subjective Norms and Behavioral intention to adopt 4G mobile services.

H_{14}: Gender will significantly moderate the relationship between Perceived Behavioural Control and Behavioral intention to adopt 4G mobile services.

III. RESEARCH METHODOLOGY

5.1 MEASUREMENT AND DATA COLLECTION

A self-administered two-part questionnaire was designed. The first part involved nominal scale items to collect basic demographical information including age, gender, 4G mobile usage experience and average usage of 4G mobile services per day. The second part includes 5-point Likert scale ranging from "strongly agree" (5) to "strongly disagree" (1) to measure the various constructs such as attitude, subjective norm, perceived behavioral control, perceived usefulness, perceived ease of use, compatibility, peer and superior influence, self-efficacy, technology and resource facilitating conditions and behavioral intention. The questionnaire items were mostly adopted from relevant previous studies with necessary validation and wording changes tailored to 4G mobile services [25, 26, 27, 28, 29, 30, 18, 31]. A non-probability sampling in the form of convenience sampling was used to gather voluntary and anonymous participation from working professionals who use 4G mobile services in India. Out of 500 distributed questionnaires, 485 were returned giving a response rate of 97 per cent. After reviewing, 9 responses were found to be incomplete, thus excluded from the study. This left a total number of 466 responses for final analysis with a usable response rate of 93 per cent.

III. DATA ANALYSIS AND RESULTS

Data collected for this study were analyzed using SPSS v.20. Descriptive statistics were used to describe the data characteristics. The reliability of constructs was assessed used Cronbach's alpha (α) before being included in the primary analysis. Hypotheses were defined to ascertain the relationship between the constructs. Regression analysis was used to measure the predictive power of the independent constructs on the dependent construct and to measure the interaction effect of gender on the independent constructs. The empirical results obtained in the study are presented and discussed below.

6.1 SAMPLE DEMOGRAPHICS

Table 2 lists the demographic characteristics of the sample. The gender distribution of the study was 51.1 male and 48.9 female. Respondents less than 25 years formed the largest age group of 36.9 per cent. A good majority of respondents, i.e. 53 per cent had 6 months to 1 year of experience in 4G mobile usage. Also, majority of respondents, i.e. 30.5 per cent used 4G mobile services for more than 3 hours per day which made a good sample of respondents generally known to be able to use more often every day.

6.2 RELIABILITY AND VALIDITY

Reliability was measured using Cronbach's alpha (α) to assess the internal consistency among the constructs and ascertain if the variables identified were reliable. The results found in Table 3 denote that good internal reliability was achieved since the measures were above the recommended value of 0.70 [32]. The validity of the measures should be carried out before testing the theory [33]. Content validity in this study should be relatively acceptable since the questionnaire was developed based on extensive review of relevant literature. Also, face validity was established by exposing the research objectives, defining each construct and its items with a group of ten identified experts and pre-testing the questionnaire with 18 executives to identify any confusing wording and estimate the time taken to complete the questionnaire. Necessary corrections were carried out for clarity.

Table 2- *Demographic profile of respondents*

	Frequency	**%**			**Frequency**	**%**
Gender				***Duration of 4G mobile usage***		
Female	228	48.9		Less than 3 months	34	7.3
Male	238	51.1		3 months to 6 months	82	17.6
Total	*466*	*100*		6 months - 1 year	248	53.2
				More than 1 year	102	21.9
				Total	*466*	*100*
Age group				***4G mobile usage per day other than voice services***		
< = 25 years	172	36.9		Less than 30 minutes	38	8.2
26 - 35 years	92	19.7		30 minutes to 1 hour	54	11.5
36 - 45 years	112	24.0		1 – 2 hours	98	21
46 - 55 years	70	15.0		2 – 3 hours	134	28.8
> 55 years	20	4.3		More than 3 hours	142	30.5
Total	*466*	*100*		*Total*	*466*	*100*

Table 3 - *Reliability of Constructs*

Constructs	**Number of items**	**Cronbach's alpha**
Perceived Usefulness	6	0.925
Perceived Ease of Use	5	0.732
Compatibility	3	0.730
Peer Influence	5	0.775
Superior Influence	5	0.804
Self-Efficacy	3	0.715
Facilitating Conditions - Technology	3	0.834
Facilitating Conditions - Resources	3	0.826
Attitude	5	0.729
Subjective Norms	3	0.738
Perceived Behavioural Control	3	0.712
Behavioural Intention	6	0.751

6.3 CORRELATION ANALYSIS

The Pearson correlation coefficient was used to ascertain if the relationships posited in H_1, H_2 and H_3 could be supported by the sample. It is considered that if the Correlation coefficient <0.1 is considered negligible; between 0.1 and 0.3 is considered small/weak; between 0.3 and 0.5 indicates a moderate effect, and >= 0.5 is considered large. The results of this analysis are presented in Table 4.

Table 4 *- Correlation Analysis*

Constructs	**Pearson Correlation**	**Behavioural Intention**
Attitude	Pearson Correlation	***0.537***
	Sig. (2-tailed)	0.000
	N	466
Subjective Norm	Pearson Correlation	**0.434**
	Sig. (2-tailed)	0.000
	N	466
Perceived Behavioral Control	Pearson Correlation	**0.491**
	Sig. (2-tailed)	0.000
	N	466

The results of the Pearson correlation indicate a statistically significant positive correlation ($r=0.537$, $p<0.05$) between Attitude and Behavioral intention to adopt 4G mobile services. Similarly, statistically positive correlation were found ($r=0.434$, $p<0.05$) between Subjective Norms and Behavioral intention and ($r=0.491$, $p<0.05$) between Perceived Behavioral Control and Behavioral intention to adopt 4G mobile services. Thus, the results support for H_1,H_2 and H_3 and suggest no severe multicollinearity problems among research variables [34].

6.4 REGRESSION ANALYSIS

6.4.1 Testing the main effects

The results of the Hierarchical regression presented in Table 5 indicate that Attitude, Subjective Norms and Perceived Behavioral Control are significant predictors of Behavioral Intention towards 4G mobile services

adoption. From Table 6 showing the results of regression analysis and hypothesis testing, it is evident that the independent variables are capable of explaining 42.6% of the variance in Behavioral intention towards 4G mobile services. The p value for the F statistic is < .05. This means that at least one of the independent variables is a significant predictor of the dependent variable, Behavioral intention.

Table 5 – *Results of Regression analysis*

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.686[a]	.471	.461	.428	.471	50.662	4	228	.000

a. Predictors: (Constant), Gender, Subjective norm, Perceived Behavioural Control, Attitude

b. Dependent Variable: Behavioural Intention

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.149	4	9.287	50.662	.000[b]
	Residual	41.796	228	.183		
	Total	78.945	232			

a. Dependent Variable: Behavioural Intention

b. Predictors: (Constant), Gender, Subjective norm, Perceived Behavioural Control, Attitude

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.179	.221		5.324	.000	.743	1.616
	Attitude	.280	.052	.302	5.415	.000	.178	.382
	Subjective norm	.172	.041	.223	4.214	.000	.092	.253
	Perceived Behavioural Control	.237	.044	.285	5.398	.000	.151	.324
	Gender	.250	.057	.215	4.364	.000	.137	.364

a. Dependent Variable: Behavioural Intention

The results indicates a significant positive influence of the variables pertaining to attitude towards behavioral intention (ß = 0.33, p < 0.001), subjective norm towards behavioral intention (ß = 0.22, p < 0.001) and perceived behavioral control towards behavioral intention (ß = 0.31, p < 0.001) on 4G mobile services adoption, thus supporting hypotheses H_1, H_2 and H_3. Surprisingly, the effects of perceived usefulness (ß = -0.09, n.a.) and perceived ease of use (ß = 0.04, n.a.) on 4G mobile services adoption are not significant. Thus, hypotheses H_4 and H_5 are not supported. However, there is a significant positive influence of the variables pertaining to compatibility towards attitude (ß = 0.377, p < 0.001), thus supporting H_6. The constructs namely, peer influence (ß = 0.227, p <= 0.001) and superior influence (ß = 0.274, p < 0.001) show significant positive influence towards subjective norm, thus supporting H_7 and H_8. The effects of Self-efficacy (ß = 0.15, n.a.), Technology facilitating conditions (ß = 0.02, n.a.) and Resource facilitating conditions (ß = -0.107, n.a.) on 4G mobile services adoption are not significant. Thus, hypotheses H_9, H_{10} and H_{11} are not supported.

Table 6: *Results of Hypotheses testing*

Criterion (DV)	**Predictor (IV)**	**Hypothesis**	**ΔR^2**	**Statistic test**			**Results**
				t	**Sig.**	**Beta**	
Behavioral Intention to adopt 4G mobile services	Attitude	H_1	0.426	5.771	0.000	0.332	Supported
	Subjective Norm	H_2		4.041	0.000	0.222	Supported
	Perceived Behavioral Control	H_3		5.669	0.000	0.309	Supported
Attitude	Perceived Usefulness	H_4	0.143	-1.216	0.225	-0.071	Rejected

	Perceived Ease of Use	H_5		0.558	0.577	0.038	Rejected
	Compatibility	H_6		6.031	0.000	0.317	Supported
Subjective Norms	Peer Influence	H_7	0.181	3.334	0.001	0.236	Supported
	Superior Influence	H_8		4.018	0.000	0.279	Supported
Perceived Behavioral Control	Self-Efficacy	H_9	0.032	2.281	0.023	0.140	Rejected
	Facilitating Conditions - Technology	H_{10}		-0.302	0.763	-0.018	Rejected
	Facilitating Conditions - Resources	H_{11}		-1.587	0.114	-0.098	Rejected

Table 7: *The ANOVA[a] Table for the Interaction Effects of Gender*

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	1.084	0.231		4.685	0.000
	Attitude	0.312	0.053	0.336	5.842	0.000
	Subjective norm	0.167	0.043	0.216	3.898	0.000
	Perceived Behavioral control	0.256	0.045	0.307	5.634	0.000
	Gender dummy	0.069	0.061	0.057	1.135	0.257
2	(Constant)	0.644	0.426		1.511	0.132
	Attitude	0.442	0.096	0.476	4.626	0.426
	Subjective norm	0.078	0.072	0.101	0.442	0.096
	Perceived Behavioral control	0.318	0.082	0.382	3.902	0.000
	Gender recoded	0.617	0.509	0.513	1.213	0.226
	Gender*Attitude	-0.175	0.116	-0.606	-1.510	0.132
	Gender*Subjective Norm	0.127	0.090	0.440	1.416	0.158
	Gender*Perceived Behavioral control	-0.082	0.099	-0.292	-0.831	0.407

a. Dependent Variable: Behavioural Intention

6.4.2 Interaction effects of Gender

The interaction effects were measured by considering one more item to the regression model and computing it by multiplying the independent variable and the moderator variable (gender). Using dummy coding is recommended when using categorical variables in the regression analysis [35]. The regression analysis for the interaction effects was conducted using the block method. In the first block, the independent variables (Attitude, Subjective Norms, and Perceived Behavioral Control) and the moderator (gender dummy) were entered into the model. The second block included all of these variables and the interaction terms i.e. multiplication of the dummy variable by the independent variables (Gender* Attitude, Gender* Subjective Norms and Gender* Perceived Behavioral Control). The significance level of the interaction effects was set at 0.05. From the results presented Table 7, it can be seen that there is no statistically significant interaction effect of gender on the relationship between Attitude and Behavioral Intention ($p>0.05$), between Subjective Norms and Behavioral Intention ($p>0.05$) and between Perceived Behavioral Control and Behavioral Intention ($p>0.05$). Thus statistical support was not obtained for H_{12}, H_{13} and H_{14}.The results of this analysis are presented in Table 7.

IV. DISCUSSIONS, IMPLICATIONS AND CONCLUSION

The goal of this study was to ascertain if gender moderates the effects of the antecedents of behavioral intention towards 4G mobile services adoption by working professionals in India.The results of the analysis suggest that Attitude, Subjective Norms and Perceived Behavioral Control are significant antecedents of behavioral intention towards 4G mobile services adoption by these users. It is further noted that Attitude is the most important antecedent of behavioral intention. This is supported by the highest standardized beta (0.332) that it attained relative to the other predictors.Attitude is indeed, widely accepted as the key determinant of technology usage adoption behavior [36]. According to the results of the study, males and females do not differ in their belief about the intention to adopt 4G mobile services. This study makes an important contribution to literature by testing the moderation effect of gender on the relationship between the constructs: attitude, subjective norms and perceived behavioral control and behavioural intentions which was not previously tested in the original DTPB model.

This study examines intention to adopt 4G mobiles services by working professionals in India, using bivariate correlation and hierarchical regression analysis that includes key acceptance determinants of behavioural intention and have a focus on gender effects. The results show that users' attitude towards 4G mobile services usage is jointly determined by perceived use of use, perceived usefulness and compatibility. Subjective norm is determined by peer and superior influence and Perceived Behavioural Control is jointly

determined by Self-Efficacy, Facilitating Conditions – Technology and Resources. Similarly, Behavioural Intention is determined by Attitude, Subjective Norms and Perceived Behavioural Control. The findings show that gender does not moderate the behavior intention and usage.

In recent years, 4G mobile services have experienced high penetration rate and its usage is becoming popular in most countries. This favours the development of marketing strategies to increase profitability for the users and finding more ways to improve mobile users' intention to adopt 4G services. The telecom operators should pay more attention to offer network and data facilities for sustained usage of 4G mobile services and offer improved technologies that the users find easy to use, less complex and have compatible factors. The marketing strategies should focus on reducing perceived lack of use and complexity as this may affect service acceptance. Marketers should be aware of these factors since attitude towards use of 4G mobile services play a crucial role in the user's intention towards the same. One key outcome for marketers to note is that gender does not moderate behavior intention. Marketers need to consider women too as a target audience and fashion their marketing strategies to engage with women and move them towards 4G technology adoption.

This study has focused on the working professionals who use 4G mobile services for their personal or official tasks. The results show other segment opportunities, since 4G market is expanding with a new range of technology with several mobile phones supporting 4G network. Since this study considered working professionals in India, future research can examine theoretical implications of DTPB with the general population to strengthen the external validity of the study.

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International Journal of Business and Management Invention (IJBMI) is UGC approved Journal with Sl. No. 4485, Journal no. 46889.

Dr.Sundar1. "Intention To Adopt 4G Mobile Services In India: An Investigation of The Moderating Effect of Gender Through The Decomposed Theory of Planned Behaviour." International Journal of Business and Management Invention (IJBMI) , vol. 07, no. 02, 2018, pp. 34–42.