

A STUDY ON ADOPTION OF ONLINE STOCK TRADING WITH SPECIAL REFERENCE TO COIMBATORE CITY BASED ON UTAUT MODEL

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ABSTRACT

The purpose of this study is to investigate the adoption intention of the online stock trading services provided by the Fintech companies by the stock traders. Fintech companies are investing in large amounts in the information technology to facilitate the investors to trade at a single click at their convenience. Based on the UTAUT model (Unified theory of acceptance & use of technology) with constructs such as Performance expectancy, facilitating conditions, hedonic motivation, effort expectancy and risk perceptions, a comprehensive research model was proposed. An empirical survey with a valid sample of 200 respondents were collected from the stock investors of the Coimbatore city to test the research model. The results from the SEM analysis revealed that the determinants such as performance expectancy, hedonic motivation, facilitating conditions and economic risk were statistically significant towards the intention of the people to use the online stock trading. It also implied that the behavior intention to use the online stock trading induced the usage behavior of people towards using the online stock trading service. This implies that to facilitate the intention to use online stock trading, securities firms need to consider stock investors' technological perceptions and risk perceptions to motivate the stock traders to use the online trading service. The findings of this study not only have important implications for m-commerce research, but also provide in sights for securities firms and developers of online stock trading systems.

Keywords: *Online Trading, Fintech, Unified Theory of Acceptance & Use of Technology.*

Introduction

Fintech is a term originated from the words 'Finance' and 'Technology'; thus, its combination is used globally and it is rapidly growing across the world. On a positive note, the innovations emerging from the FinTech sector carry enormous transformative innovation for the financial investment industry. Implementing FinTech to a new track provides value to the improvement of investment management services, where financial institutions need to work together to identify areas of priority in the investment management services for transformation in order to solve every complex condition and regulation.

Facing a highly competitive business environment, securities firms have invested heavily in information technology to enhance their competitive advantage. Online stock trading, an innovative transaction platform allowing stock investors to trade via online devices, has been implemented by most securities firms to enhance customer (i.e., stock investor) service. Online stock trading provides stock investors with specific benefits, such as real-time financial market information, account inquiries, and mobile trading without human brokers regardless of the investor's location. Despite the tremendous growth and future potential of online devices online stock trading is still in its infancy, leaving a great deal of room for development. However, the nature of online stock trading generates several limitations for the use of the online stock trading service. First, there is a problem of internet connectivity. Second there is a risk of making poor investment choices and also lack of knowledge on the new trading investments.

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Lastly, there is a problem of errors in the process of computer misconception. There are also a problem of security and people fear that they may lose their money due to the security reasons while trading online. Therefore, these limitations stand as an obstacle to the investors from using the online stock trading and prevent the users from switching to the online services from the traditional ones. A better understanding of stock investors' usage intention would have great practical value, not only for managers of securities firms seeking to manage more effectively the implementation of mobile stock trading, but also for mobile stock trading practitioners who wish to assess stock investors' demands for mobile stock trading and improve their services.

Therefore, the purpose of this study is to identify the factors affecting stock investors' intentions to adopt online stock trading in order to promote this service successfully. A research model is proposed from the perspectives of the unified theory of acceptance and use of technology (UTAUT) [Venkatesh et al. 2003] and users' risk perceptions. As online stock trading represents an emerging service, this study also employs UTAUT to identify the factors affecting stock investors' intentions to adopt online stock trading. This will both enrich extant research on UTAUT and advance our understanding of stock investors' intention towards online stock trading. Hence, the research model is proposed based on the main constructs of UTAUT.

Literature Review

The adoption of fintech services such as mobile payment apps, adoption of mobile banking etc., have been massively studied by various researchers. Carolina and Martins (2014), examined the adoption of Internet banking using the UTAUT model. The results support some relationships of UTAUT, such as performance expectancy, effort expectancy, and social influence, and also the role of risk as a stronger predictor of intention.

Se Hu and Kunsu (2018) did an empirical study of the Impacts of Perceived Security and Knowledge on Continuous Intention to Use Mobile Fintech Payment Services with the extended post-acceptance model which found that the knowledge and perceived security in mobile Fintech services have a significant influence on users' confirmation and perceived usefulness. Meylina and Erick (2019) studied the influence of perceived risk & trust in adoption of the fintech services using the TAM model. The validity test revealed that the Trust influences perceived usefulness for intention to use fintech services. Shuai and Shanlin (2019) examined the adoption of the fintech services by bank users using TAM model. The results tells that users trust in Fintech services has a very significant influence on user's attitudes for adoption. Chua Chang and LIM (2019) using TAM model. The findings are perceived usefulness influenced consumer intention to adopt this service.

Gladys and Chikondi (2019) examined the Factors Driving the Adoption of E-banking Services Based on the UTAUT Model and the study found that the social influence and effort expectancy had a significant impact on the adoption of e-banking services. Rantie and, Ehigueras (2019) assessed the role of risk and trust in consumers' adoption of online payment systems using the TAM model. It found that only attitude determine the intention to use payment systems as opposed to trust and perceived risk. Finally, this study introduces several implications for businesses, focusing on consumers' intent to use these online payment services. Gede Leo and Sri Darma (2019) studied the Determinants of Using Go-Pay and its Impact on Net Benefits. The study done using the SEM model revealed that the perceived ease of use, perceived usefulness, and perceived enjoyment significantly and positively influence on intention to use Go-Pay. In contrast, perceived risk significantly and negatively influences on intention to use Go-Pay.

Johannes and Julia (2019) examined the usage behaviour and the future adoption of the fintech and digital finance solutions. The study aims to identify potential determinants of how the present use behaviour & future usage intention with regard to Fintechs & Digital Finance solutions based on the theory of reasoned action & Unified theory of acceptance & Usage of technology. The study found that the customers were willing to use & expect to use innovative & reinvented financial products & services also there is a huge gap between current use behaviour & future usage intention. Charmi Shah and Suhail (2019) examined the adoption of fintech and the user perspective of fintech services namely payment, lending & borrowing also the satisfaction level of fintech users considering the safety, expectation & perception behind adapting. The study implied that maximum people were most satisfied with payments rather than financial planning & lending, borrowing. Youngsters are tech friendly & use more fintech services while fintech planning services are used by middle age people to some extent.

The above mentioned studies have been made in the mobile payment services, fintech in banks, adoption of e-commerce etc., but very few studies have been made on the risks and benefits of adopting the online trading in the stock market. So in this context this study aims to examine the risks

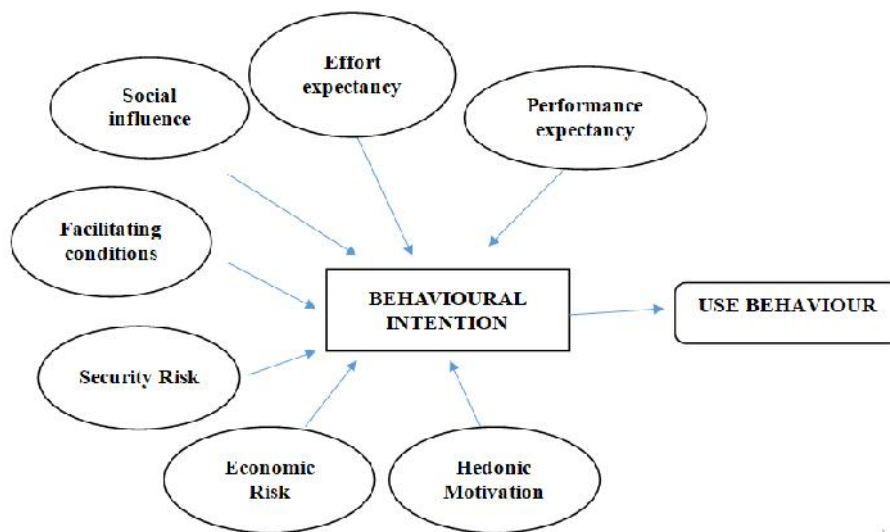
and benefits of adopting the online trading services provided by the fintech companies. Therefore the study is to analyze the benefits that are derived out of using the online trading and also the risks that are possessed by using the online trading using the UTAUT model which studies the usage acceptance of a new technology.

Objectives of the Study

To understand the adoption intention of the online stock traders the following objectives were framed for the study.

- To examine the characteristics affecting intention of the investors in adopting online stock trading.
- To examine whether attitude factors affect the adoption of onlinestocktrading.
- To study the factors influencing to use the online stocktrading.

Research Model



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The above figure represents the proposed model which is provided in this study

Research Hypothesis

- H₁:** Performance expectancy will directly and significantly affect the Behaviour Intention of the consumer.
- H₂:** Effort expectancy will directly and significantly affect the Behaviour Intention of the consumer.
- H₃:** Social Influence will directly and significantly affect the Behaviour Intention of the consumer.
- H₄:** Facilitating conditions will directly and significantly affect the Behaviour Intention of the consumer.
- H₅:** Security risk will directly and significantly affect the Behaviour Intention of the consumer.
- H₆:** Economic risk will directly and significantly affect the Behaviour Intention of the consumer.
- H₇:** Hedonic motivation will directly and significantly affect the Behaviour Intention of the consumer.
- H₈:** Behaviour Intention will directly and significantly affect the Behaviour Intention of the consumer.

Research Methodology

• **Research Design**

A descriptive research design has been used in the study with an approach to understand the adoption intention of the stock traders to use the online stock trading.

• **Target Population & Sample**

The population which has been targeted in this study is the stock traders of the Coimbatore city. The sampling technique used in this study is snow ball sampling to draw samples and an appropriate questionnaire was circulated to the stock traders of the Coimbatore city through subsequent referrals.

- **Sample Size**

The research is done by collecting the primary data by circulating the questionnaire through google forms to the stock traders of the Coimbatore city. A total of 200 responses were collected and the adequacy of the sample size was calculated using the G power 3 software and the required sample size was 200.

- **Statistical Tools used for Analysis**

Structural equation modelling was performed to test the hypothesis framed among the constructs to establish the influence among the variables and to validate the research model.

Research Analysis and Findings

Table1: Demographic Profile of Online Stock Investors

Gender	Frequency	Percentage
Female	95	47.5%
Male	105	52.5%
Age		
Less than 25	82	41%
25-30	16	8%
31-40	26	13%
41-50	43	21.5%
Above 50	33	16.5%
Education		
Schooling	1	0.5%
Diploma	24	12%
Undergraduate	77	38.5%
Post graduate	95	47.5%
Others	3	0.9%
Occupation		
Student	60	30%
Government employee	20	10%
Private employee	53	26.5%
Self-employed	32	16%
Business	27	13.5%
Home maker	6	3%
Others	2	0.6%
Monthly Income		
<20,000	32	16%
20,000-40,000	27	13.5%
40,000-60,000	37	18.5%
>60,000	54	27%
Dependent	50	25%
Percentage of Investment		
<10%	109	54.5%
11%-20%	59	29.5%
21%-30%	16	8%
>30%	16	8%
Mode of Online trading		
Online trading platforms	95	47.5%
Desktop application	25	12.5%
Mobile trading apps.	80	40%
Kind of Trading		
Intraday	39	19.50%
Short term trading	100	50%
Long term trading	61	30.50%

Interpretation of Demographic Profile of Respondents

The above descriptive table describes the demographic profile of the respondents. From the table it can be inferred that majority of the online trading users are Male (52.5%).Majority of the respondents age was less than 25 (41%) and most of the respondents were post graduate (47.5%) students who traded through the online platforms followed by the private employees. Majority of the respondents had income less than 20,000 and most of them invested less than 10% through the online trading services. Majority of the respondents prefer to trade through the online trading platforms (47.5%) and majority of them involved in a long-term trading (30.5%). So, from the above data we can infer that majority of the online stock traders are youngsters aged below 25 who are more tech-savvy.

Structural Equation Model Analysis (SEM)

The Influence of factors like Performance expectancy, Effort expectancy, hedonic motivation, security risk, economic risk, social influence on the behaviour intention to use the online stock trading and the usage behaviour of the online stock investors is examined using the SEM model. The validity and reliability of the constructs were examined using the Confirmatory factor Analysis and the findings are discussed below.

Reliability of Constructs

The reliability of constructs is examined using the Cronbach alpha and the composite reliability and the results are furnished in the table

Table2: Confirmatory Factor Analysis

	PE	EE	SI	SR	ER	HM	BI	UB	FC
Composite Reliability	0.911	0.893	0.801	0.874	0.938	0.891	0.912	0.859	0.818
Cronbach Alpha	0.869	0.840	0.768	0.804	0.912	0.756	0.872	0.754	0.718
AVE	0.719	0.675	0.659	0.64	0.79	0.80	0.72	0.67	0.632

From the table1.1, it can be observed that the Cronbach alpha value for all the constructs are greater than the threshold value of 0.7(Thompson *et al.*1995) Performance expectancy (0.911), Effort expectancy (0.893), Social influence (0.801), Security risk (0.874), Economic risk (0.938), Hedonic motivation (0.891), Behaviour Intention (0.912), Usage behaviour (0.859), Facilitating Conditions (0.818). Therefore from this it can be inferred that the items that has been taken for each construct fully describes the constructs taken for the study.

Composite Reliability measures the overall reliability of the set of items loaded on each construct. The threshold value of the CR should be greater than 0.7 across the constructs (Hair *et al.*2006). The CR value was found to be greater than 0.7 for all the constructs taken Performance expectancy (0.869), Effort expectancy (0.840), Social influence (0.768), Security risk (0.804), Economic risk (0.912), Hedonic motivation (0.756), Behaviour Intention (0.872), Usage behaviour (0.754), Facilitating Conditions (0.718). The Cronbach value and the composite reliability values were found to be satisfying the threshold values and so the reliability was established for the model.

The threshold value for AVE is said to be 0.5 (Fornell & Larker 1981) and the AVE's of all the constructs are above 0.5, Performance expectancy (0.719), Effort expectancy (0.675), Social influence (0.659), Security risk (0.632), Economic risk (0.64), Hedonic motivation (0.79), Behaviour Intention (0.80), Usage behaviour (0.72), Facilitating Conditions (0.67).

Discriminant Validity

Table 3: Discriminant Validity

	PE	EE	SI	FC	SR	ER	HM	BI	UB
PE	0.848	0.662	0.468	0.539	0.363	0.43	0.539	0.775	0.582
EE	0.662	0.822	0.476	0.657	0.155	0.243	0.525	0.614	0.539
SI	0.468	0.476	0.812	0.545	0.349	0.47	0.427	0.512	0.469
FC	0.539	0.657	0.545	0.795	0.158	0.214	0.425	0.577	0.483
SR	0.363	0.155	0.349	0.158	0.8	0.745	0.268	0.332	0.272
ER	0.43	0.243	0.47	0.214	0.745	0.89	0.312	0.46	0.379
HM	0.539	0.525	0.427	0.425	0.268	0.312	0.897	0.547	0.635
BI	0.775	0.614	0.512	0.577	0.332	0.46	0.547	0.85	0.593
UB	0.582	0.539	0.469	0.483	0.272	0.379	0.635	0.593	0.819

The discriminant validity done by comparing the squared correlations of each AVE and taking the square root of AVE of each construct is larger than any correlation among the other latent variables. It can be observed from the table that the square root of AVE for Performance expectancy (0.848), Effort expectancy (0.822), Social influence (0.812), Security risk (0.80), Economic risk (0.89), Hedonic motivation (0.897), Behaviour Intention (0.85), Usage behaviour (0.819), Facilitating Conditions (0.795). Hedonic motivation has the highest correlation among any other latent variables. Thus, discriminant validity is established in the study table below.

Factor Loadings

The threshold for the factor loadings is said to be greater than 0.7 and the conditions are satisfied by the model given in the table below.

Table 4: Factor Loading

	PE	EE	SI	FC	SR	ER	HM	BI	UB
PE1	0.804	0.521	0.446	0.425	0.419	0.437	0.457	0.678	0.48
PE2	0.859	0.599	0.442	0.491	0.237	0.341	0.506	0.648	0.54
PE3	0.896	0.566	0.39	0.488	0.321	0.386	0.452	0.694	0.521
PE4	0.829	0.557	0.31	0.421	0.259	0.297	0.414	0.607	0.429
EE1	0.446	0.784	0.266	0.462	0.057	0.08	0.321	0.441	0.321
EE2	0.572	0.851	0.365	0.486	0.163	0.231	0.38	0.504	0.447
EE3	0.598	0.83	0.488	0.583	0.179	0.294	0.51	0.542	0.541
EE4	0.556	0.822	0.441	0.63	0.104	0.187	0.512	0.529	0.458
SI1	0.33	0.375	0.775	0.336	0.15	0.258	0.181	0.323	0.256
SI2	0.299	0.338	0.784	0.411	0.092	0.139	0.266	0.331	0.286
SI3	0.561	0.447	0.71	0.504	0.449	0.545	0.501	0.572	0.506
SI4	0.105	0.163	0.751	0.294	0.36	0.463	0.291	0.217	0.301
FC1	0.598	0.553	0.453	0.798	0.337	0.433	0.429	0.569	0.5
FC2	0.409	0.437	0.422	0.742	0.237	0.259	0.309	0.455	0.364
FC3	0.005	0.188	0.158	0.755	-0.178	-0.172	0.008	0.018	0.062
FC4	0.404	0.529	0.418	0.824	0.073	0.1	0.291	0.445	0.336
FC5	0.387	0.522	0.399	0.789	0.03	0.078	0.376	0.434	0.37
SR1	0.128	0.01	0.117	-0.023	0.782	0.351	0.115	0.086	0.113
SR2	0.373	0.17	0.325	0.182	0.85	0.656	0.316	0.351	0.325
SR3	0.251	0.071	0.298	0.087	0.893	0.67	0.163	0.239	0.177
SR4	0.374	0.218	0.337	0.22	0.837	0.653	0.245	0.345	0.235
ER1	0.33	0.207	0.403	0.179	0.675	0.89	0.248	0.39	0.33
ER2	0.39	0.246	0.398	0.214	0.667	0.882	0.317	0.402	0.319
ER3	0.425	0.212	0.477	0.181	0.686	0.902	0.296	0.448	0.393
ER4	0.386	0.201	0.394	0.186	0.624	0.885	0.249	0.396	0.305
HM1	0.572	0.564	0.43	0.478	0.261	0.297	0.897	0.581	0.621
HM2	0.395	0.377	0.336	0.284	0.219	0.262	0.897	0.401	0.519
BI1	0.692	0.532	0.488	0.538	0.358	0.465	0.471	0.85	0.499
BI2	0.614	0.464	0.341	0.411	0.218	0.311	0.388	0.846	0.474
BI3	0.689	0.563	0.501	0.534	0.27	0.398	0.479	0.865	0.511
BI4	0.637	0.526	0.409	0.479	0.283	0.388	0.523	0.838	0.533
UB1	0.63	0.519	0.401	0.51	0.302	0.379	0.548	0.646	0.79
UB2	0.449	0.459	0.419	0.379	0.182	0.263	0.559	0.486	0.862
UB3	0.358	0.348	0.331	0.301	0.19	0.295	0.454	0.331	0.804

Therefore it can be inferred from the above results of Cronbach Alpha, composite reliability and AVE are satisfied and so the convergent validity is established in the study.

Testing of Hypothesis

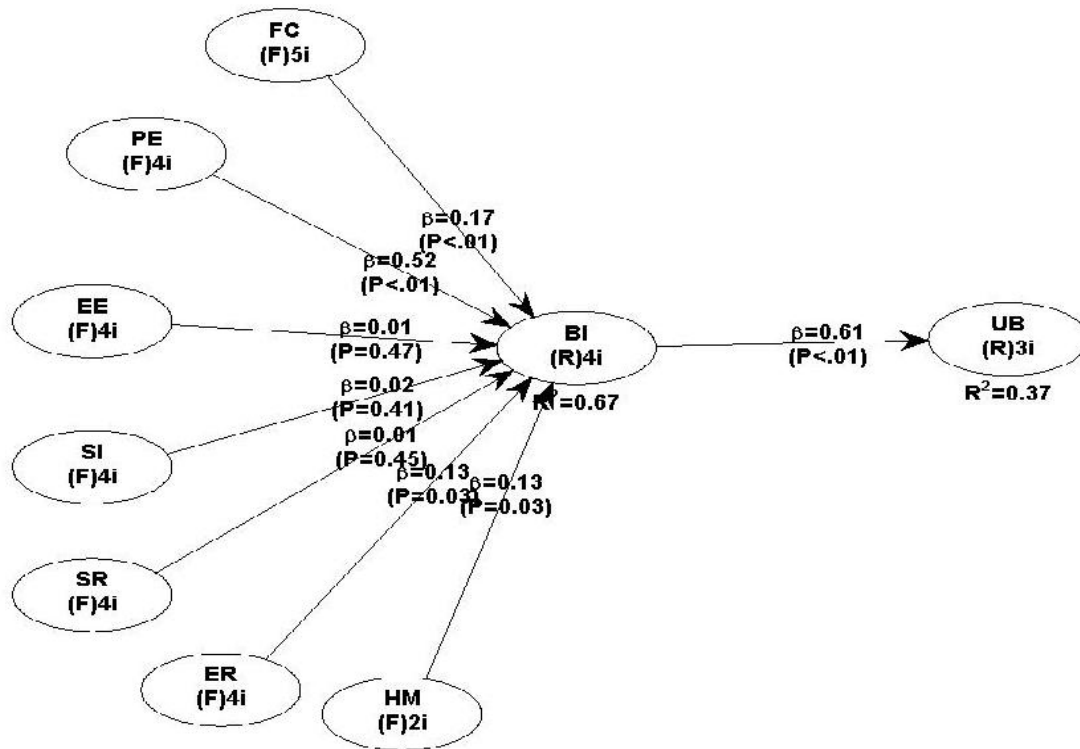
The table below provides the results of the hypothesis framed for the study

Hypothesis	Relationship	Path Coefficient	Critical ratio (t> 1.960)
H1	Performance expectancy → Behaviour Intention	0.52	8.138
H2	Facilitating conditions → Behaviour Intention	0.17	2.504
H3	Effort expectancy → Behaviour Intention	0.01	0.085
H4	Social Influence → Behaviour Intention	0.02	0.221
H5	Security risk → Behaviour Intention	0.01	0.114
H6	Economic risk → Behaviour Intention	0.18	1.986
H7	Hedonic motivation → Behaviour Intention	0.20	1.991
H8	Behaviour Intention → Usage behaviour	0.61	9.667

Hypothesis Testing Results

- H₁:** The first hypothesis of the study “Performance expectancy will directly and significantly affect the behaviour intention” has a value of 8.138 which clearly implies that $t > 1.96$ and so it is not rejected. Relationship between both the constructs was found to be significant. Therefore it can be inferred that the performance expectancy of the online traders impacts the behaviour intention to use the online trading.
- H₂:** The second hypothesis of the study “Facilitating conditions will directly and significantly affect the behaviour intention” has a value of 2.504 which clearly implies that $t > 1.96$ and so it is not rejected. Relationship between both the constructs was found to be significant. Therefore it can be inferred that the facilitating conditions provided to the online traders has an impact on the intention to use the online trading.
- H₃:** The third hypothesis of the study “Effort expectancy will directly and significantly affect the behaviour intention” has a value of 0.085 which implies that $t < 1.96$ hence it is rejected. Relationship between both the constructs was not found to be significant. Therefore it can be inferred that the Effort expectancy of the online traders does not have an impact on the intention to use the online trading.
- H₄:** The fourth hypothesis of the study “Social Influence will directly and significantly affect the behaviour intention” has a value of 0.221 which implies that $t < 1.96$ hence it is rejected. Relationship between both the constructs was not found to be significant. Therefore it can be inferred that the Social Influence does not have an impact on the intention to use the online trading.
- H₅:** The fifth hypothesis of the study “Security risk will directly and significantly affect the behaviour intention” has a value of 0.114 which implies that $t < 1.96$ hence it is rejected. Relationship between both the constructs was not found to be significant. Therefore it can be inferred that the Security risk does not have an impact on the intention to use the online trading.
- H₆:** The sixth hypothesis of the study “Economic risk will directly and significantly affect the behaviour intention” has a value of 0.1986 which implies that $t > 1.96$ hence it is not rejected. Relationship between both the constructs was found to be significant. Therefore it can be inferred that the Economic risk perceived with the online trading does have an impact on the intention to use the online trading.
- H₇:** The seventh hypothesis of the study “Hedonic motivation will directly and significantly affect the behaviour intention” has a value of 1.996 which implies that $t > 1.96$ hence it is not rejected. Relationship between both the constructs were found to be significant. Therefore it can be inferred that the Hedonic motivation does have an impact on the intention to use the online trading.

H₈: The final hypothesis of the study “Behaviour intention will directly and significantly influence the usage behaviour” has a value of 9.667 which clearly implies that $t > 1.96$ hence it is not rejected. Relationship between both the constructs were found to be significant. Therefore it can be inferred that the Behaviour intention to use the online trading does strongly impact the usage behaviour of the stock investors.



Diagrammatic Representation of SEM Analysis

The results of hypothesis framed table summarises the hypothesized model path coefficients and the critical path ratio of each path. The results of the hypothesis framed implies that the Performance expectancy of the online traders is the most influential predictor of the Intention to use the online trading indicating a path co-efficient of 0.52 at $p < 0.05$. This is followed by the facilitating conditions with a path co-efficient of 0.17 at $p < 0.05$. **Gladys and Jackson (2019)** also found that Performance expectancy and facilitating conditions **influences** people's intention to use a particular technology. The economic risk also a significant impact on the intention to use the online trading with a path co-efficient of 0.18 at $p < 0.05$. The diagrammatic representation of this results are shown in the above figure. Regarding the usage behaviour, the intention has a highest influence with a path co-efficient of 0.61 at $p < 0.05$, which implies that the intention to use the online trading leads to the usage behaviour of the online stock trading. Hedonic motivation also had a significant impact on the intention to use the online stock trading with a path co-efficient of 0.20 at $p < 0.05$. Similarly study by **Waranpong and Krittipat (2017)** have found that hedonic motivation has a significant impact on the intention of the stock traders to adopt to online stock trading. Studies by **Carolina Martin and Tiago Oliveira (2014)** have also found that the intention to use the online trading is strongly impacted by the usage behaviour. With regards to Social Influence it is insignificant in indicating the intention of the online users in using the online stock trading. **Daka, G. C., & Phiri, J. (2019)** have also found that the Social Influence is insignificant in determining the intention of the people to use a technology. Effort expectancy also does not influence the intention in using the online stock trading but according to **Johannes and Julia (2019)** this does influence the usage of technology by the people. Similarly regarding the Security risk it does not influence the intention in using the online stock trading **Shuai and Shanlin (2019)** also found that risk does not have a greater impact on the intention to use a particular technology. Also the average R square value is 0.520 which is greater than the acceptable value of 0.5 and confirm the model fit statistics (**Hair et al (2011)**).

Conclusion

In today's scenario when all the services are going to be online or in the electronic form the usage of online trading will also gain popularity. The introduction of this online stock trading would influence the investors resulting in an increase in the business of the exchange. The research was conducted to understand the adoption intention of the stock traders of the Coimbatore city with the support of 200 consumers located in Coimbatore city. Results of the above study revealed that the Performance expectancy is the most influential factor which influences the stock traders to adopt online stock trading service followed by the facilitating conditions provided by the online stock trading services. Therefore it can be inferred that when people feel that the online stock trading is more efficient to them than the traditional broker trading the intention to use the online stock trading will also increase. Similarly when there is some account manager to help the stock traders in using the online stock trading the intention to use the online stock trading will increase. When there is an increase in the intention to use the online stock trading the usage behaviour will also increase. The study was conducted based on the UTAUT model. This study will be more beneficial to the securities firm and the developers of the online stock trading systems.

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