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Consumer Perception Factors for Fashion M-Commerce and its Impact on Loyalty among Working Adults

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Abstract

The purpose of this study was to investigate the influence of selected customer perceived value factors on the consumer loyalty towards Mobile commerce in Malaysia towards fashion and apparel industry. This research mainly proposes on the integrated model of dependent variable loyalty of consumer behavior with six independent variables such as Efficiency, System availability, Fulfillment, price as perceived value elements. Explanatory research is adopted and data was collected using a questionnaire developed based on the past researches. The sample of 215 M-shoppers is collected using convenience sampling and then analyzed with help of AMOS 22 tool mainly verified normality, reliability, confirmatory factor analysis, structural equation modelling and path analysis. Correlation Analysis has been carried out for the latent constructs of the SEM to find the strength of relationship between variables and through the Path Analysis R-square value obtained indicated that the model explains most of

the variability of the response data around its mean. Then, significance of the SEM is obtained using the P-value in which the exogenous variables 'Efficiency & Privacy' are found to be significant with the 'Perceived Value' and one of the exogenous variable 'Price' is found to be significant directly with the endogenous variable 'Loyalty'. Mediating effects were considered to find the direct effects of exogenous variables on endogenous variables. Efficiency, privacy and price are the three important factors that any fashion industry in M-commerce should consider before marketing its products through mobile applications. Thus, businesses developing M-Commerce can come out with suitable value proposition for their M-shoppers based on the findings of this research.

Keywords: Mobile commerce, Online shopping, Efficiency, System availability, Fulfillment, price, Perceived value and consumer loyalty

1. Introduction

Mobile-commerce is mainly related to the pairing of mobile devices and that is connected to wireless access network (Maity M, 2014) with commercial transactions (Veijalainen J, 2006) and Mobile-Commerce has many applications, such as mobile marketing, mobile shopping, mobile banking, mobile ticketing, SMS banking, SMS shopping , mobile entertainments and etc. The main purpose of this research is to get the understanding about the factors that influences the consumer's loyalty towards mobile commerce for online shopping in fashion and apparel industry. In the fast developing telecommunication and internet of things technology world, consumers simply just do not do shopping through mobile internet as part of online shopping; they will browse the store and will check all the required available materials and compare with other retailers, and find out the lowest-cost option and the same time buying in online. The advanced graphical user interface for each online retailer, and advanced mobile technology display which made easy access to online shopping. And in contrast, mobile commerce presents unique features such as ubiquity, personalization, flexibility and localization (Bussiness-Insider, 2015). The advancement in the mobile technology influences to transform the consumers shopping style, which also gives flexibility to control over purchasing process (Dužević, 2016). The main advantage of online shopping is there is no need for the requirement such as physical shop and its sales employees. And studying the loyalty of consumer becomes one of the important researches in e-commerce.

With the evolution of mobile commerce, study on consumers' loyalty has become critical to understand, and to understand the key features of mobile commerce, and the term e-loyalty which is mainly applicable to customers who do mobile shopping and transactions, who does shopping from same online retailer rather switching between the online retailers (Carlos Flavián, 2016). The rapid advancement in mobile technology and readily available applications for online retailers, to understand the consumer loyalty is critical. On this topic, there are numerous of researchers has been done, such as Phani Bhaskar and Prasanna Kumar (Phani Bhaskar, 2016). They mainly did the research on e-loyalty of this living digital world. Satisfaction-trust-loyalty theory has been applied. In their study, they have proposed an integrative model and their research critical key words are E-Loyalty, E-Commerce, Trust and Satisfaction. The exponential growth in mobile shopping has turned to inspire consumers mobile-commerce and their e-loyalty, current generation are living in this digital environment. Satisfaction-trust-Loyalty is main influencing factors for customer e-loyalty. Mobile-commerce is becoming more and more daily activity to individual consumer's life style, consumer loyalty is one of the major factors to influence mobile-commerce. In this research the conceptual framework indicates the factors influence the consumers' loyalty, such as trust, satisfaction, efficiency, fulfillment, service quality, website speed, delivery

satisfaction, privacy, security, cost etc. The objective of this research was to understand the factors to influence. (SriAstuti Pratminingsih, 2013) have done research on 'Factors Influencing Customer Loyalty Toward Online Shopping'. The significant growth in e-commerce made competition among the retailers. Hence the consumer's loyalty maintaining has been become a crucial part to sustain and continue the business.

Consumer loyalty influences the critical parameter in the organizational success, and consumer loyalty is more important for consumers' acquisition. And the consumers' loyalty is a critical objective for marketing planning to bring out the offers, discounts to retain and attract more customers (Flint.J, 2011). To gain consumer loyalty the Malaysian online retailers have to design a customer interactive interface to get competitive edge and the research from Poh-Ming stated that trustworthiness is positively impacted to customer e-loyalty and e-satisfaction also positively impact on customer loyalty in the context of Malaysia. The study also proved that the importance of strong online social network (Winnie, 2014). Consumer loyalty is mainly about the online the purchasers whose experience is about their online transactions and willingness to make future visits to the same website for further purchases. So the factors which influences him/ her to make again purchases from retailers (Grandon, 2011). As per researcher (Nielsen, 2014) the online customers are mostly browsing the online retailers to get familiar with the new products and to know the offer details than to decide to purchases for online transactions. Nielsen research also states that 68% of online consumers do read the product review and feedback before they decide on the price and product. In Malaysia, the mobile technology has been improved significantly and also the internet users' count also increased significantly from 11 million to 21 Million since 2011. And the intention to proceed online shopping is directly proportional to the amount of perceived risk (Khan, 2008). As per Khan's (Khan, 2008) research, the internet users' penetration is increased exponentially in south-east Asia market. But the online shopping users count is half the internet users. Consumer loyalty is different with traditional shopping and different with mobile commerce and other forms of internet shopping.

The aim is to study, identify and research on changes has been taken place in mobile commerce business and factors influencing the consumer's loyalty towards mobile commerce in Malaysian online consumers' context. This research will help to understand the gap which exists with respective mobile commerce in Malaysian consumers. The research objective for this study as follows: To identify whether perceived Efficiency of mobile commerce influences the loyalty of consumers towards mobile commerce about fashion and apparel industry. To identify whether perceived System availability of mobile commerce influences the loyalty of consumers towards mobile commerce about fashion and apparel industry. To identify whether perceived Fulfillment of mobile commerce influences the loyalty of consumers towards mobile commerce about fashion and apparel industry. To identify whether perceived privacy of mobile commerce influences the loyalty of consumers towards mobile commerce about fashion and apparel industry. To identify whether perceived price of mobile commerce influences the loyalty of consumers towards mobile commerce about fashion and apparel industry.

2. Literature Review

2.1 Review of Existing Theories

Diffusion and Innovation theory is mainly to examine the ideas, and how those ideas will spread among the people. Before this there were many researches on the concept to increase consumers trust. Diffusion of innovation theory states that Technology is an instrument variable to influence the human behavior change (Roger.E, 2017). The people who uses the

advanced or innovative technology will make sudden change in the consumer or human behavior. This kind of sudden change in the human behavior will make better perception the current technology compared to the previous technology versions. Author (Zhang. X, 2015) used the theory to identify the health care providers in Australia which needed to solve the problems with parents demand to access to healthcare reports, and aging population. The innovation in e-healthcare which influence the adaption of new technology. Diffusion of Innovations is scientific in the values sense as well. Research being done is value neutral and not biased because what is stated is pretty much how the news is run. The masses are fed what information is important (Parcel.G.S., 1993). There various limitations for this theory to apply. As per (AYODELE, 2012) report, the diffusion of innovation that offers adopters sets, the adaptor may be bring the advancement in the technology is using but this model does not include the consumers' behavior and its does not include about the latest technology. Technology is used to make betterment of life style but the technology also make important role in human behavior and their reactions towards activities (Sun.J, 2016)

Unified communications is the model to integrate independently working tools. This model is mainly used to improve efficiency of any process and infrastructure efficiency and to improve user experience, these are process change and improvements are directly linked process cost. Hence this theory is mainly used to reduce the operational cost (Kieller, 2010). Following are top uses of this model: Increase in worker productivity and efficiency in work output, reduced time for device checking during process, without knowledge of employee awareness system will allow them to call and make sure the communication will reach to end user To increase working efficiency, Flexibility in work process- anyplace anywhere and anytime employees can start work, make sure each employee to be more productive and to maintain work-life balance within the organization. This model also has disadvantages such as the employee privacy, and employee opinion. This model only states about the employer oriented and employer favored process rules are designed. This theory not stating about the impact of this kind off rules changes and way of working and strict regulations (Kieller, 2010)

TRA or ToRA (Theory of reasoned action) is used by many organizations and the TRA theory is very strongly supports persuasion theory which was developed by Martin and Ajzen (Ajzen.I., 1980). TRA theory is mainly developed to understand the influence of human behavior that influences the decision making, especially this model excludes the habitual, repetitive, and impulsive behavior while influencing decision making. After so much TRA's popularity, there are many critics pointed towards TRA. The main critic was regarding the TRA sufficiency attitude and subjective variables to explain the behavioral intentions. Besides attitude there were many variables were proposed, mainly prior to behavior. And there were some questions about TRA model like why the intension of this model is needed in TRA model if it is so majorly correlated with behavior of individual? And few criticized about conceptual and operational separation towards normal variables (O'Keefe.D.J, 2002). As per researcher Ajzen and Fischbein (Ajzen.I., 1980), TRA was mainly for behavioral intension which may lead specific outcome as per below figure. The theory states the stronger the intension and result towards expected behavior will also be stronger.

TPB (Theory of Planned Behavior) theory mainly to predict the individual's intention to engage in tasks in specific time and to understand their behaviors. In each company or in any organization the each employees' or each individuals' behavior and behavior intentions are depends on the each employee attitude towards behavior, the perceived social pressure on any individual to perform or not to perform the behavior, and control towards perceived behavioral (Ajzen, 1991). TPB (theory of planned behavior) model suggested many researchers, mainly because this model will provide the suggestions to researcher for reliable

studies about consumer behavior towards online shopping. Theory of planned behavior is mainly extracted from theory of reasoned action (TRA). This extension is due to TRA was mainly dealing with voluntary behaviors. But TPB is mainly proposed to state (Taylor, 1995). Theory of planned behavior provides the good explanation about the behavioral model with assumption that person would do some behavior. The TPB is mainly discovered based on the voluntary behavior where which states about self-control. But Theory of planned behavior have following critics, such as TPB doesn't consider other parameters to find the intension towards behavioral changes. TPB still doesn't take economic and environmental variables to influence the human behavior (Nadeem, 2017).

2.2 Review of Recent Empirical Researches

According to author (Uchenna Cyril Eze, 2011), despite many researches in foreign about the mobile commerce, there are aspect still research needed in Malaysia aspects. The research explains out the key variable that determines mobile-commerce usage among the Malaysian users. This research adapted quantitative approach and surveyed consumers in Klang Valley, Malaysia. The research states that perceived trust, perceived cost, social influences, and perceived usefulness were the key variable to influence the consumers to adapt mobile commerce. And key words were mobile commerce, technology acceptance, Malaysia, and behavioral intension. The research by (Uchenna Cyril Eze, 2011) had following hypothetical analysis. First stated about perceived price or cost, the research said the cost had negative influence on the intention to use mobile-commerce in Malaysia, then stated about perceived trust, the research stated that the trust had a positive influence towards mobile-commerce in Malaysian online users. The study also stated about impact of ease of use, which also had positive influence towards intention to use Mobile Commerce and Perceived usefulness will have a positive effect on the intention to use Mobile Commerce in Malaysia.

The research by Wong Weng and his team (Wong, 2015) were about the factors that influence the mobile-commerce consumer's loyalty in Malaysian onilne retailers. The author stated that Malaysia has tremendous opportunity for mobile commerce business and stated about Malaysian digital technology growth, the digital growth achieved by adopting the Internet and the ease to use that eco system. And Malaysia has eco system for users to take advantage of online retailers over the traditional retailers. Now consumers with smartphone with high speed internet can boost the online business, also the mobile commerce market is set to become one of the most promising and lucrative growth markets. In Malaysia, although the mobile-commerce market is relatively not well matured compared to western countries, in upcoming years, the mobile internet growth is expected to be great and numerous mobile commerce adoption studies have been investigated. Data were subsequently analyzed using the Structural Equation Modelling (SEM) method. The research findings contributed significantly in filling up the knowledge gap regarding the factors which influences the mobile-commerce services. The study assist mobile commerce service providers, marketers and managers in their decision making as well as improving their profitability, products and services. This study revealed that efficiency, system availability, fulfillment, privacy, satisfaction, trust and commitment are the factors that influence Mobile-Commerce customer loyalty in Malaysia, directly or indirectly. Interestingly, efficiency has the strongest influence on satisfaction, which in turn affects customer loyalty. Also, commitment has a stronger influence on customer loyalty than satisfaction and trust. This study contributes to customer loyalty research stream by integrating service quality and relationship quality constructs in the context of m-commerce.

As per the research (Norazah, 2011), the research study, which states about the satisfaction

and vendor's website quality, which was mainly used during customer interaction, which resulted saying that the satisfaction with vendor's service quality was not significantly influenced to the customer loyalty. The research was conducted the survey on random targeted population and further correlation and regression was applied to get the results. And this study was validating the independent variable such as trust, and satisfaction for mobile commerce vendor. And these research outcomes were stating about customer satisfaction that the customer should be satisfied with mobile-commerce online retailer services, in order to achieve the trust and remain loyal to them. Actually, the study validated the determinants of satisfaction and trust towards mobile commerce online retailers although this study had many limitations such as demographic limitations.

The research by Yung-Ming Li (Yung-Ming Li, 2010) and team about increasing trust in mobile commerce through design aesthetics, the research has key variables like mobile commerce, trust, design aesthetics, website design and website quality. The research has stated that the exponential growth in mobile commerce (m-commerce) has motivated to understand how trust can be increased through mobile technology. Researcher also referred previous researches which examined the design or visual of mobile website, but the relationship between design aesthetics of mobile website design and customer trust in Mobile-Commerce has been rarely investigated. Research outcomes also stated that design aspects had major impact website characteristics component, customization, perceived usefulness and ease of use, all of which were ultimately shown to have significant explanatory power in influencing consumer trust (Yung-Ming Li, 2010).

2.3 Conceptual Framework

According to above explained (section 2.1, 2.2, 2,3) empirical analysis and based on above discussed literature review and by considering the research limitations, the below mentioned conceptual framework is designed to explain the consumers loyalty towards Mobile-commerce retailing adaption in Malaysia towards fashion and apparel industry; and with help of non-dependent variables like perceived Efficiency, System availability, perceived Fulfillment, perceived price and its perceived value towards consumer loyalty which will influence the loyalty towards online shopping. The conceptual framework is addressing more compressively the consumers' loyalty. Based on current market trend the customer loyalty is one major variable to maintain the business and achieve sustainable growth.

Table 1. Conceptual framework variable list

Variables	Sub variables	Researchers
Convenience	Perceived ease of use	(Gefen.D, 2003), (B.A. Weitz and S.D. Jap, 1995), (Bhat.P.A, 2014), (Wu, 2005)
Functionality	Ease of navigation	(Alfahl, 2012), (Easterby-Smith, 1991) (Hunt.S.D., 1994) (Lin P. a., 2003) (Haba & Dastane, 2018)
Price	Cost Perceived level of price	(Ajzen.I., 1980) (Flint.J, 2011)
Reliability	Compatibility system quality content quality	(Yasin, 2010) (Ajzen.I., 1980) (Ringim, 2012)
Visibility	Size of image/text Readability of information	(Yasin, 2010) (Ringim, 2012)
Efficiency	System availability Convenient Required item availability Purchase process speed	(Kumar, 2016) (S.Anil, 2003) (Lin, 2003) (F.D.Davis, 1989)

Fulfillment	Customer care, and service help desk No compromise on quality Genuine product delivery Expected delivery time	(C.Y.Nicholson, 2001) (R.M.Morgan, 1994) (L.O'Malley and C.Tynan, 1997) (Hosein, 2011)
privacy	Website fraud Credit card hacking Expected hassle-free transaction Secured personal Information	(B.A. Weitz and S.D. Jap, 1995) (Khan, 2008)
System availability	Ese of use Convenient Advanced GUI client Mobile-commerce efficiency	(Gefen.D, 2003) (AlHinai, 2007) (Lin H. H., 2006) (Hunt.S.D., 1994)
Loyalty	Consumer intension to revisit same website.	(Uchenna Cyril Eze, 2011) (Flint.J, 2011) (Wang, 2007)

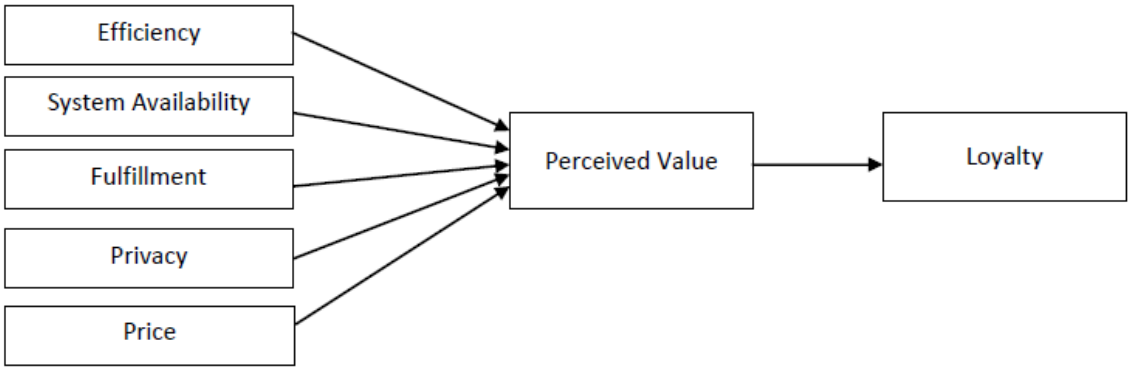

Figure 1. Cconceptual Framework

The above figure shows the conceptual framework for this research which describes the Independent variables Efficiency, System availability, Fulfillment, Privacy and Price influences the consumer loyalty towards mobile-commerce for fashion and apparel industry in Malaysia

H1: Perceived Efficiency has a positive impact on consumer's Loyalty towards mobile commerce for online shopping in fashion and apparel industry.

H2: perceived System availability has a positive impact on consumer's Loyalty towards mobile commerce for online shopping in fashion and apparel industry.

H3: Perceived convenient variable has a positive impact on consumer's Loyalty towards mobile commerce for online shopping in fashion and apparel industry.

H4: Perceived privacy variable has a positive impact on consumer's Loyalty towards mobile commerce for online shopping in fashion and apparel industry.

H5: Perceived price or cost variable has a positive impact on consumer's Loyalty towards mobile commerce for online shopping in fashion and apparel industry.

3. Research Methodology

Positivism approach is employed along with quantitative analysis as research method. The research is based on explanatory nature in investigation in order to identify the relationship between independent variables on dependent variable including mediating factor.

Empirical data is collected from the sample responded on 215 mobile shoppers based in

Kuala Lumper, Malaysia. The distinguishing factor is selection of the respondents from the category of working professionals as emerging users of M-commerce having decision making power as well as ability to pay for it. The sample is selected using convenience sampling technique and data was collected using self-administered online questionnaire developed using Likert scale of 1 to 5. The working professionals in the sample involve IT professionals working in MNCs in Cyberjaya which is knows as Silicon Valley of Malaysia. It was ensured that the respondents are using smartphones and are frequent shoppers using mobile apps. The same was also ensured by collecting data using app through mobile instead of sending data collection link through e-mails. Collected data was then validated and any inconsistency was removed and only genuine responses were taken into consideration.

The analysis starts with demographic profiling of the respondent followed by normality and reliability test analysis. Descriptive statistics is then analyzed for the data. AMOS 22 is used to carry out Confirmatory factor Analysis, Structural Equation Modeling for model fit runs and subsequently Path analysis is done. The process of ethical approval and ethical guidelines has been followed.

4. Data Analysis & Results

4.1 Confirmatory Factor Analysis (CFA)

CFA-SEM is a confirmatory method providing a comprehensive means for validating the measurement of latent constructs, the validation procedure of latent construct is called confirmatory factor analysis (Harrington, 2009). The confirmatory factor analysis technique has for purpose to evaluate the unidimensionality, validity and reliability of a latent constructs (Brow, 2006). In order to accept the measurement model from the confirmatory factor analysis, there has to be three steps of validity acceptance the researcher should undertake which are the construct validity, convergent validity and also discriminant validity.

4.2 First Model Measurement

While using the research model for the first estimate of standard loading from the model in order to find out if the model used in the research study is fit or not, nevertheless the CFA factor loading model ranges from 0.49 to 0.82.

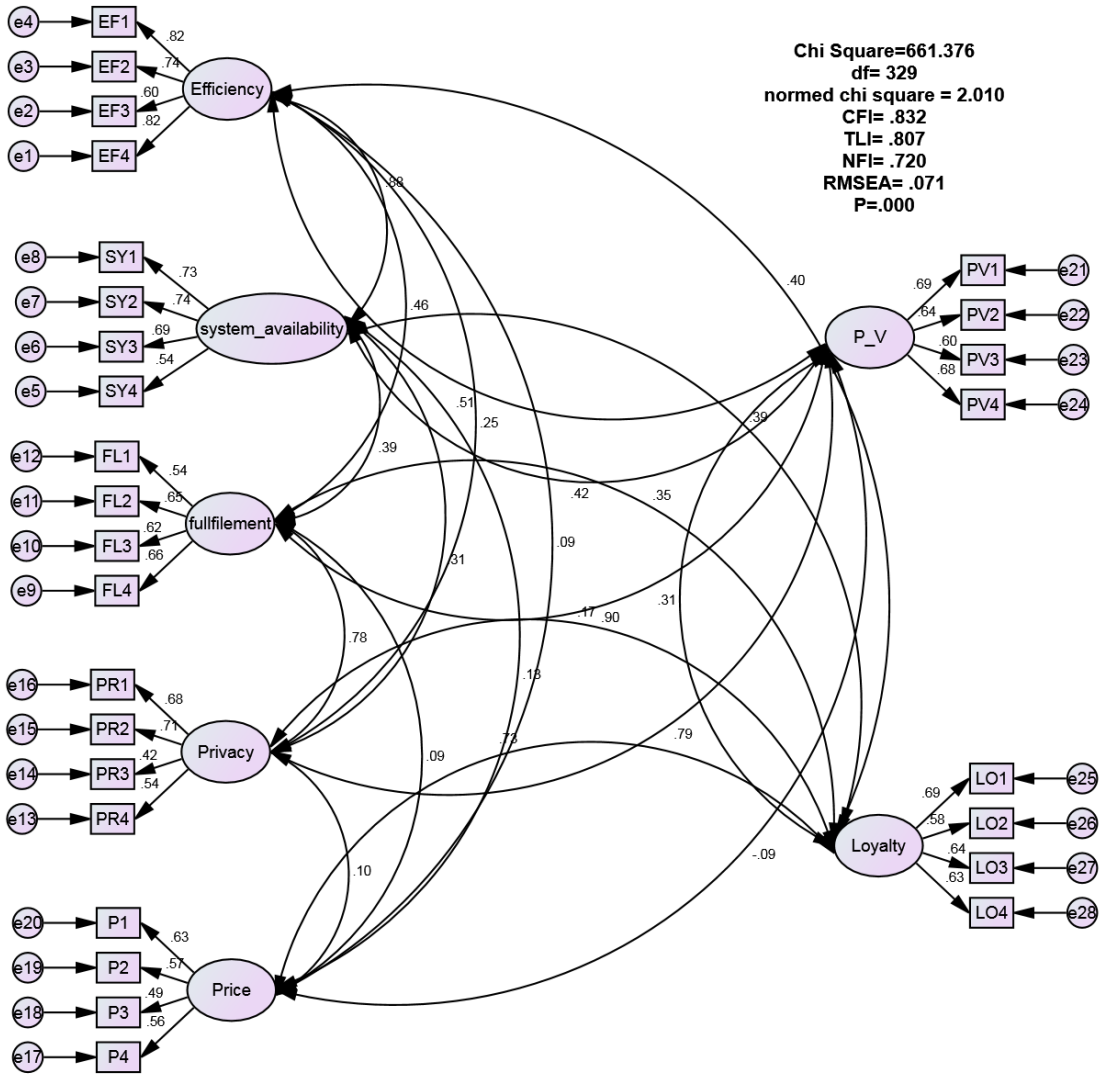

Figure 2. First Tested Model for confirmatory factor analysis (CFA)

According to Hair et al (1995, 2010) rule of factor loadings, which is to keep and maintain the latent constructs that load more than 0.7 in order to have a good model fit in confirmatory factor analysis (CFA), but also including the values that loaded close to 0.5 if the model is fit. Though, as the first standard model used in this research study does not meet the requirement of CFA construct, IBM SPSS AMOS 22 required minimum three items per construct for carrying out the structural equation modelling (SEM). A re-run of confirmatory factor analysis (CFA) was undertaken in order to find out if the model fit by removing poor factor loading items (Holmes-Smith, 2006). After re-running the model for confirmatory factor analysis, some items in the constructs were removed due to poor standard factor loadings.

4.3 Re-run Model in Order to Find out the Model Fitness

For the purpose of finding real model fitness for the confirmatory factor analysis, some items have been removed in the constructs which are: EF3 item from the efficiency construct, PR3 from the privacy construct, P3 from the price construct, PV3 from perceived value construct, L02 from the loyalty construct, and also remove the fulfilment construct which had poor factor loadings.

Moreover, the model was run again, and the researcher found a good model fit, with the

construct validity, divergent validity and discriminant validity which is shown in figure 2.

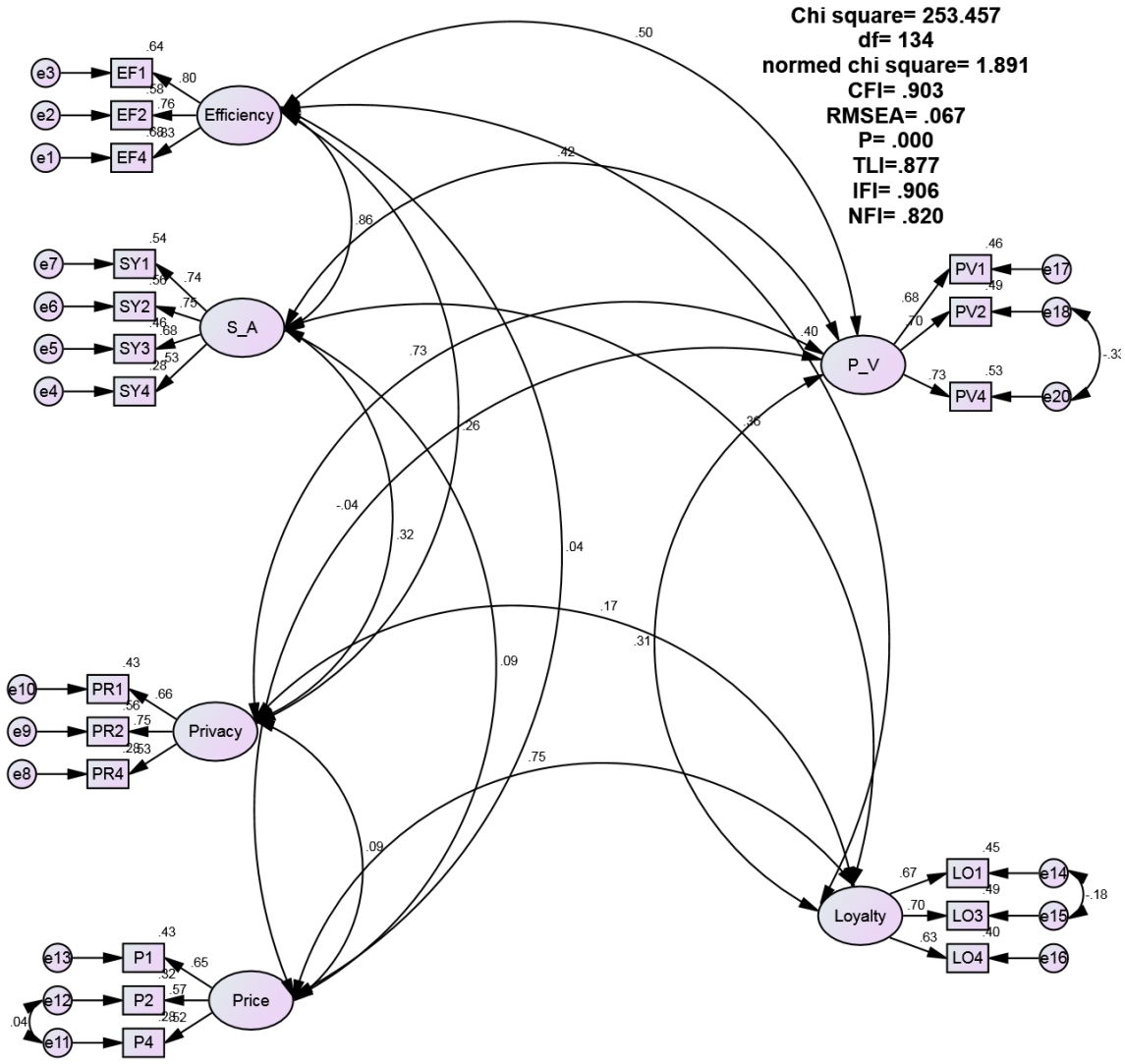

Figure 3. Re-run confirmatory factor analysis (CFA) model

4.4 Construct Validity of the Model

Construct validity is defined as the extent to which the research study model is accurate; the validity is achieved when the fitness indexes for a construct achieved the required level. The fitness indexes demonstrate how fit is the items in measuring their respective latent constructs. Hair et al (2010) and Holmes-Smith (2006), model fitness measurement, it demonstrates that the actual re-run of the CFA is a good fit. Therefore, the construct validity measurement is measured with three model fitness categories which are the absolute fit measured by the chi-square and root mean square of error approximation (RMSEA) (Wheaton et al, 1977; Browne and Cudek, 1993). The second phase of the model fitness is the incremental fit which is measured by the comparative fit index (CFI), normed fit index (NFI) and Tucker-Lewis Index (TLI) (Bentler, 1990; Bentler and Bonett, 1980; Bollen, 1989). The third one is the parsimonious fit Chi square/df (Marsh and Hocevar, 1985). Therefore, the measurement of the model fitness indexes are as follow (CFI, TLI, NFI should be greater than 0.9; also RMSEA should be lesser than 0.08; CMIN/DF should be lesser than 2). According to the rule of Ullman (2001), the Chi-square measurement should be greater than 0.05 but this index is

always affected by the sample size.

Table 2. Construct Validity

Name of Category	Name of Index	Measurement Level	Acceptance
Absolute Fit	Chi-square	P-value=0.000<0.05	Accepted
	RMSEA	RMSEA=0.067<0.08	Accepted
Incremental Fit	NFI	NFI=0.82<0.9	Accepted
	TLI	TLI=0.877<0.9	Accepted
	IFI	IFI=0.906>0.9	Accepted
	CFI	CFI=0.903>0.9	Accepted
Parsimonious Fit	Chi-square/DF	CMIN/DF=1.891<2	Accepted

The model proposed for undertaking structural equation modelling (SEM) has a good fit for construct validity because it reached 1 or 2 level acceptance from each category (Hair et al, 2010 and Holmes and Smith, 2006).

4.5 Divergent Validity of the Model

The divergent validity is done with factor loadings and Cronbach's Alpha in order to accept the liability of the data which should not be below 0.5 for each construct.

Table 3. Divergent Validity

Column	EF	SY	PR	P	PV	LO
EF1	0.80					
EF2	0.76					
EF4	0.83					
SY1		0.74				
SY2		0.75				
SY3		0.68				
SY4		0.53				
PR1			0.66			
PR2			0.75			
PR3			0.53			
P1				0.63		
P2				0.57		
P3				0.52		
PV1					0.68	
PV2					0.70	
PV3					0.73	
LO1						0.67
LO3						0.70
LO4						0.63
Construct Reliability	0.837	0.771	0.671	0.608	0.702	0.608

The divergent validity has shown the reliability of the dataset utilized in this research study, none of the standard factor loadings in the research study is below 0.5, also none of the construct reliability is below 0.5. According to Kline (2000), George and Mallery (2003), a Cronbach's alpha for establishing real construct reliability is measured as follow: (Excellent $\alpha>0.9$), Good ($0.7<\alpha<0.9$); acceptable ($0.6< \alpha< 0.7$); Poor ($0.5< \alpha<0.6$); Unacceptable ($\alpha<0.05$)

4.6 Discriminant Validity

It is the extent to which a construct is truly distinct from other constructs, thus, high discriminant validity provides evidence that a construct is truly unique. CFA provides two common techniques to evaluate the discriminant validity test which are from the correlation between two constructs or to compare the average variance extracted (AVE) values (MacQueen, 1967).

Table 4. Discriminant Validity Table

	PV4	PV2	PV1	LO4	LO3	LO1	P1	P2	P4	PR1	PR2	PR4	SY1	SY2	SY3	SY4	EF1	EF2	EF4
PV4	1.000																		
PV2	.351	1.000																	
PV1	.486	.486	1.000																
LO4	.141	.147	.001	1.000															
LO3	.148	.174	.069	.447	1.000														
LO1	.146	.266	.124	.421	.375	1.000													
P1	.002	.044	-.132	.286	.350	.367	1.000												
P2	-.027	-.022	-.025	.292	.431	.134	.348	1.000											
P4	-.023	.017	-.074	.308	.229	.220	.372	.326	1.000										
PR1	.339	.415	.385	.133	.112	.133	-.015	.051	-.105	1.000									
PR2	.392	.353	.342	.042	.074	.043	.053	.063	.062	.495	1.000								
PR4	.315	.191	.294	.062	.031	.093	.031	.085	.122	.307	.418	1.000							
SY1	.356	.067	.173	.101	.056	.183	-.002	-.027	-.044	.166	.183	.069	1.000						
SY2	.234	.304	.201	.161	.119	.246	.078	-.012	-.014	.215	.153	.128	.577	1.000					
SY3	.269	.133	.124	.247	.193	.288	.019	.141	.133	.134	.117	.191	.482	.482	1.000				
SY4	.099	.199	.034	.128	.138	.203	.092	.119	.161	.064	.088	.271	.280	.363	.550	1.000			
EF1	.340	.226	.267	.172	.161	.275	.026	.009	.112	.190	.112	.160	.526	.527	.453	.448	1.000		
EF2	.289	.342	.300	.189	.124	.340	.043	-.033	-.094	.279	.155	.031	.481	.504	.400	.277	.593	1.000	
EF4	.347	.214	.218	.238	.171	.286	.073	-.013	-.013	.135	.128	.050	.580	.518	.414	.317	.660	.645	1.000

From the above table, it is clear that the correlation between each pair of latent exogenous construct is less than 0.85. Hence the measurement model is free from the redundant items and the discriminant validity is achieved (Zainudin, 2015).

4.7 Structural Equation Modeling

Structural equation modeling is a multivariate statistical analysis technique that is used to analyze structural relationships. This technique is the combination of factor analysis and multiple regression analysis, and it is used to analyze the structural relationship between measured variables and latent constructs (Byrne, 2000).

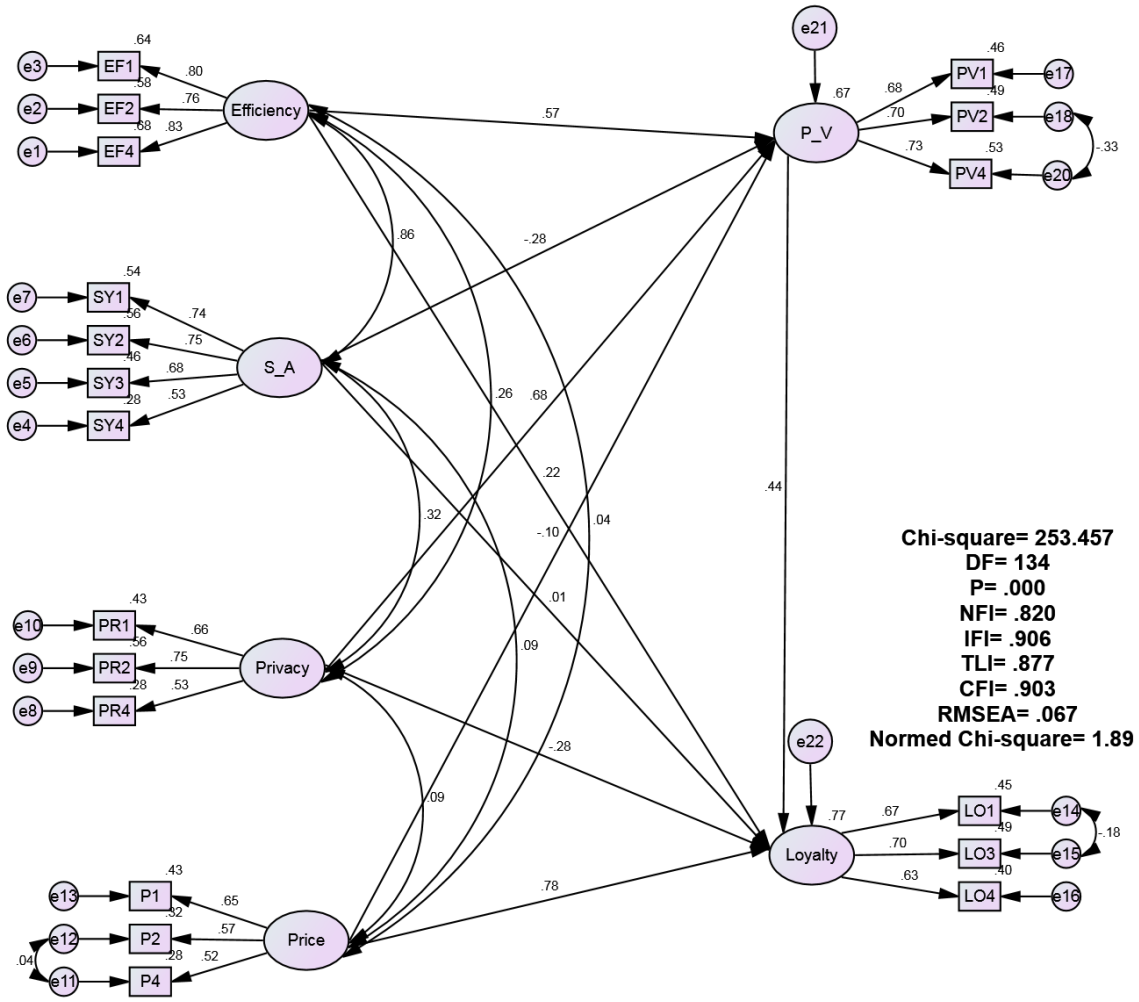

Figure 4. Structural Equation Modeling (SEM)

2.1 Comparison of Factor Loadings

Table 5. Comparison of Factors loadings Between SEM and CFA

Construct	Indicator	SEM	CFA
EF	EF1	0.78	0.80
EF	EF2	0.77	0.76
EF	EF3	0.84	0.83

SY	SY1	0.68	0.74
SY	SY2	0.71	0.75
SY	SY3	0.75	0.68
SY	SY4	0.58	0.53
PR	PR1	0.68	0.66
PR	PR2	0.75	0.75
PR	PR3	0.53	0.53
P	P1	0.47	0.63
P	P2	0.74	0.57
P	P4	0.78	0.52
PV	PV1	0.65	0.68
PV	PV2	0.69	0.70
PV	PV4	0.73	0.73
LO	LO1	0.76	0.67
LO	LO3	0.76	0.70
LO	LO4	LO4	0.76

Comparison of Model fitness Indexes

The factors loading demonstrate that there is little difference between most of the factors loading; nevertheless there are some huge differences between P1, P2 and P3 factor loadings. Basically, the model fitness from the CFA and SEM are almost the same and no differences exist between them.

Table 6. Understanding Model Fitness Index

Model Fitness Indexes	SEM	CFA
CMIN/DF	1.891	1.8912
NFI	0.820	0.820
IFI	0.906	0.906
TLI	0.877	0.877
CFI	0.903	0.903
RMSEA	0.067	0.067
P-Value	0.0000	0.0000

4.8 Correlation Analysis

Table 7. Correlation Analysis of the research latent constructs from the Structural Equation Modeling (SEM)

	PV4	PV2	PV1	LO4	LO3	LO1	P1	P2	P4	PR1	PR2	PR4	SY1	SY2	SY3	SY4	EF1	EF2	EF4
PV4	1.000																		
PV2	.351	1.000																	
PV1	.486	.486	1.000																
LO4	.141	.147	.001	1.000															
LO3	.148	.174	.069	.447	1.000														
LO1	.146	.266	.124	.421	.375	1.000													
P1	.002	.044	-.132	.286	.350	.367	1.000												
P2	-.027	-.022	-.025	.292	.431	.134	.348	1.000											
P4	-.023	.017	-.074	.308	.229	.220	.372	.326	1.000										
PR1	.339	.415	.385	.133	.112	.133	-.015	.051	-.105	1.000									
PR2	.392	.353	.342	.042	.074	.043	.053	.063	.062	.495	1.000								
PR4	.315	.191	.294	.062	.031	.093	.031	.085	.122	.307	.418	1.000							
SY1	.356	.067	.173	.101	.056	.183	-.002	-.027	-.044	.166	.183	.069	1.000						
SY2	.234	.304	.201	.161	.119	.246	.078	-.012	-.014	.215	.153	.128	.577	1.000					
SY3	.269	.133	.124	.247	.193	.288	.019	.141	.133	.134	.117	.191	.482	.482	1.000				
SY4	.099	.199	.034	.128	.138	.203	.092	.119	.161	.064	.088	.271	.280	.363	.550	1.000			
EF1	.340	.226	.267	.172	.161	.275	.026	.009	.112	.190	.112	.160	.526	.527	.453	.448	1.000		
EF2	.289	.342	.300	.189	.124	.340	.043	-.033	-.094	.279	.155	.031	.481	.504	.400	.277	.593	1.000	
EF4	.347	.214	.218	.238	.171	.286	.073	-.013	-.013	.135	.128	.050	.580	.518	.414	.317	.660	.645	1.000

Path analysis

Table 8. Model Prediction level From SEM

R-square	Percentage	Level of Prediction
P_V<--- Efficiency		0.67
P_V<--- S_A	67%	
P_V<--- Privacy	61%	0.77
P_V<--- Price	77%	
Loyalty <--- P_V	9%	

Table 9. Significance of the SEM

			Estimate	S.E.	C.R.	P-value
P_V	<---	Efficiency	.464	.177	2.625	.009
P_V	<---	S_A	-.357	.286	-1.250	.211
P_V	<---	Privacy	.837	.169	4.958	***
P_V	<---	Price	-.122	.103	-1.179	.238
Loyalty	<---	P_V	.387	.200	1.935	.053
Loyalty	<---	Efficiency	.157	.201	.780	.435
Loyalty	<---	S_A	.009	.289	.030	.976
Loyalty	<---	Privacy	-.301	.226	-1.334	.182
Loyalty	<---	Price	.817	.179	4.570	***

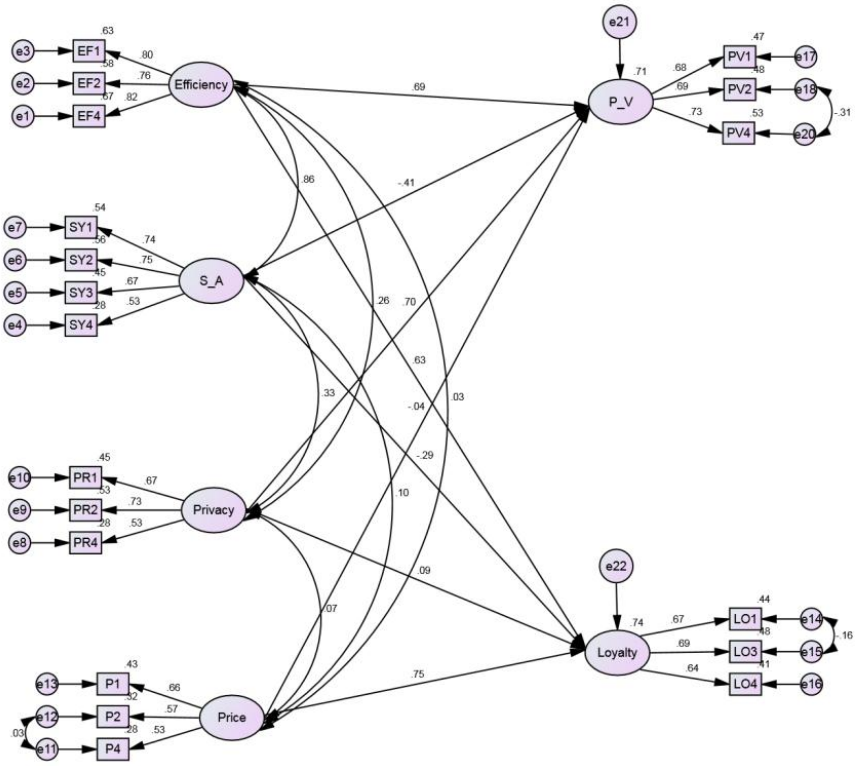

Figure 5. Exogenous Constructs Direct Effect on Endogenous Constructs

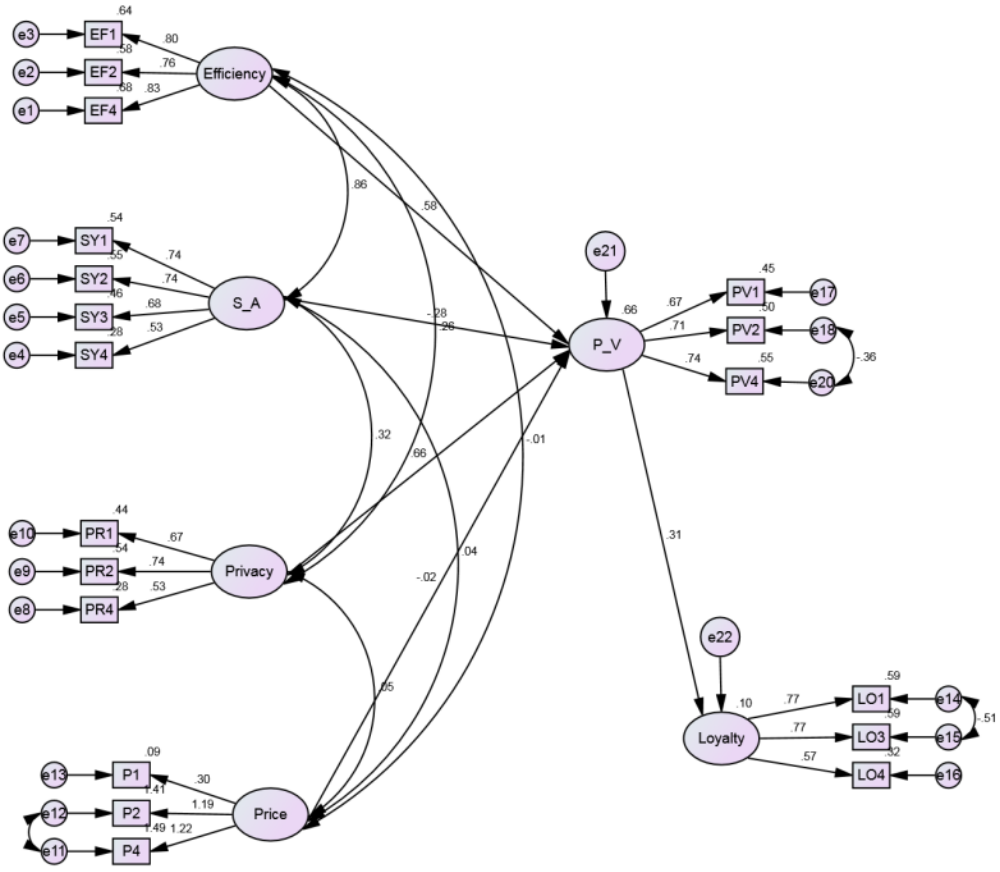

Figure 6. Moderating Effect

4.9 Mediating Effects

Comprehensively, the Mediating effect demonstrates that in order for the exogenous constructs (Efficiency, System Availability, Privacy, Price) to have an effect on loyalty, it has to pass through Perceived Value (P_V). Therefore, it means that the exogenous variables have indirect effect on Loyalty through perceived value (P_V) with a P-value=0.0000 <0.05.

5. Conclusion & Recommendation

Demographic profile analysis indicates that the data is well disbursed with the sample size of 215 Working Professionals using convenience sampling technique. Confirmatory Factor Analysis (CFA) technique has been implemented to measure the unidimensionality, validity and reliability of a latent constructs. Construct Validity test for the model has been undertaken with the three model fitness categories and were found to be good fit as it has reached 1 or 2 level acceptance from each category (Hair et al, 2010 and Holmes and Smith, 2006). Divergent validity test for the model has been done with factor loadings and Cronbach's Alpha in order to accept the reliability of the data which found to be acceptable within range and good. Discriminant Validity test for the model has been carried out using the Average Variance Extracted (AVE) values and the results proved the uniqueness of each construct.

The structural relationship between measured variables and latent constructs is found out using the Structual Equation Modelling Technique (SEM). Model fitness indexes are measured using the SEM which is then compared with the values obtained using CFA which are found to be same and the model fit has been achieved. Correlation Analysis has been carried out for the latent constructs of the SEM to find the strength of relationship between variables and through the Path Analysis R-square value obtained indicated that the model explains most of the variability of the response data around its mean. Then, significance of the SEM is obtained using the P-value in which the exogenous variables 'Efficiency & Privacy' are found to be significant with the 'Perceived Value' and one of the exogenous variable 'Price' is found to be significant directly with the endogenous variable 'Loyalty'. Mediating effects were considered to find the direct effects of exogenous variables on endogenous variables.

This research study is useful for apparel industry companies which are looking for gaining market share and increase sales as the growth of smartphone users and the transactions happening via mobile increases rapidly every year. Hence, this research directs industry researchers, marketers and managers etc. to identify the consumer perception factors for fashion m-commerce through which the customers can be satisfied which in turn increases customer loyalty. Efficiency, privacy and price are the three important factors that any fashion industry in M-commerce should consider before marketing its products through mobile applications. Thus, businesses developing M-Commerce can come out with suitable value proposition for their M-shoppers based on the findings of this research.

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