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## **The Second Order Confirmatory Factor Analyses (CFA) Model Fit Assessments of Brand Awareness with Brand Loyalty: In Case of Private and Public Banks of Ethiopia, Bule Hora Town**

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### **ABSTRACT**

The study confirmed literature in Brand Awareness indicators Perceived Awareness, Relevance Awareness, Knowledge Awareness and Esteem Awareness, and brand Loyalty attitude and behavioral indicators to investigate second-ordered or Multiple model of Confirmatory data analyses with respect to brand loyalty in particular. This study empirically attempts to discuss the particular issue by examining the relationship between two or more variables assessed in second Order or Multiple models of brand awareness and brand loyalty. The data were collected from Private and public banks of Ethiopia Bule Hora town from customers and Employees of banks. For quantitative research, design used SPSS v.25 and for the Confirmation data to use AMOS V.23, and CFA Model of Second Order or multiple data investigation Loading factors and Model fit indexed techniques were applied to a sample of 384 respondents of customers, and Employees of private and public Banks of Ethiopia, Bule Hora town. The results revealed that brand awareness and brand loyalty have a significant and positive relationship with Perceived Awareness, Relevance Awareness, Knowledge Awareness Esteem Awareness, and brand Loyalty attitude and behavioral indicators. The value of factor loading investigation over all data purification index value is fully verified between Brand awareness and Brand Loyalty within his indicators, and most second Order or multiple model results have high loading factor output indicated above 0.05% and this paper has discussed the results, and an implication compared with prior discussed conclusion and recommendations to be verified in this investigation.

**Keywords:** Brand loyalty, Brand awareness, Perceived Awareness, Relevance Awareness, Knowledge Awareness and Esteem Awareness, Brand Loyalty, and CBE.

### **1. INTRODUCTION**

Mohammad (2017), pointed out that one of the most important theories of branding awareness and brand loyalty is the relationship between a customer, Employee, and a brand, a relationship that results in brand loyalty, and most studies revealed that brand loyalty considered a very main concept in marketing (Iqbal and Green et al., 2019), and that has to be obtaining a large data base of loyal customer, and employee that is valuable in creating several competitive environment and benefits of business organization and to expand and brand awareness of lower marketing efforts According to, (Al-Azzam, Z. F. (2017), and it is the most important to note that brand awareness and brand loyalty determines, and the advancement of the business organizations and banks of the world to be upgrade their system to use digital system of a banks, Estiva, E. A., & Diño, M. J. (2020).

Hence, the link between the customer and the brand is needed from theoretical and a practical viewpoint especially in middle east countries,(Mohammad, 2017), the banks interesting of Brand awareness have positive and significant effect on brand loyalty, and brand awareness and brand loyalty have a positive and significant effect with brand equity Several variables according to customer-based brand equity possibly play a role in brand loyalty, whereas the factors that have received little attention are the brand awareness and commitment Al-Dmour and Amani, (2015). Thus, it seems that the customer's awareness level is vital Anber Mohammad, (2022).

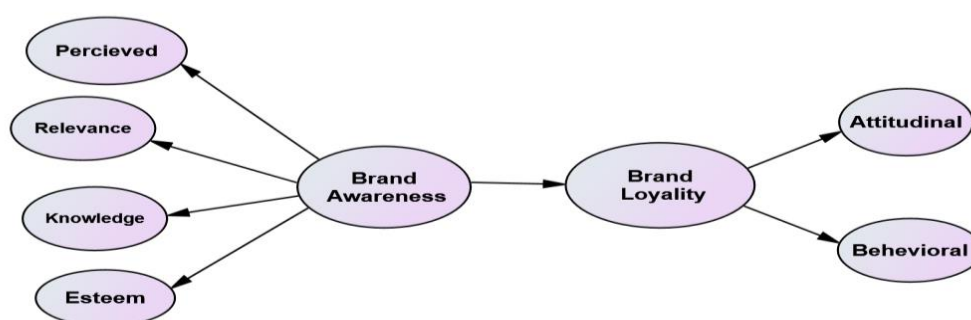
Commitment is also effective in constituting loyalty (Hameed, and Noor, 2013), the positive relationship between commitment with loyalty, and motivate the frequent buying behavior Wakjira Gada G. (2022). Nevertheless, it has not been clarified yet whether this relationship might work appropriately in the branding aspect with the purpose of identifying the customer.

Valeriia Shegai (2023), and based on the studies mentioned above, this study aims, in Ethiopian Public and private banks there has so many shortage, like transfer money from public banks to private banks, to minimize she shortage of banks, Aware community how to use online digital business financial system to solve the problem, Makrides and Christofi, M. (2020), additional ATM in front of Hotels and Governmental office, Empower the Employee Annually or yearly, promote the status of banks continuously to public, explore how digital marketing and enhance digital marketing success, and investigate the effect of digital marketing success of brand awareness with brand awareness using data from Customer of Banks and Employee of Banks, Low and Sepasgozar, S. M., & Lin Lee, (2020), and to briefly review the literature related to Brand Awareness with Brand loyalty, and to develop factor loading and model fit indices about how these constructs are related, Second, to describe the data and materials we used and to activated online digital marketing to aware a community to sustain Brand loyalty between customer and employee of Banks, how to use customer with 26 private banks and 3 public bank in Bule Hora town, customer how use effectively in those banks without any obstacles.

Therefore, most of the previous empirical studies typically tended to focus on spatial distribution, opportunity, and growth of Private and public banks, and to highlight the global novelty of the study seeks to examine, the gap in the contribution of banks, based on the above the reviewed literature the researcher will be conducted this study, to assess the Market Brand Awareness with Brand loyalty. Moreover, limited studies have been made to assess Public and Private Banks Contributions towards to sustain in Oromia regional state West Guji zone, Bule Hora town private and Public Banks of, Ethiopia.

## 2. CONCEPTUAL FRAMEWORK INVESTIGATION

**Figure1: Conceptual Framework Investigation**



**Source: AMOS Result Conceptual (2023)**

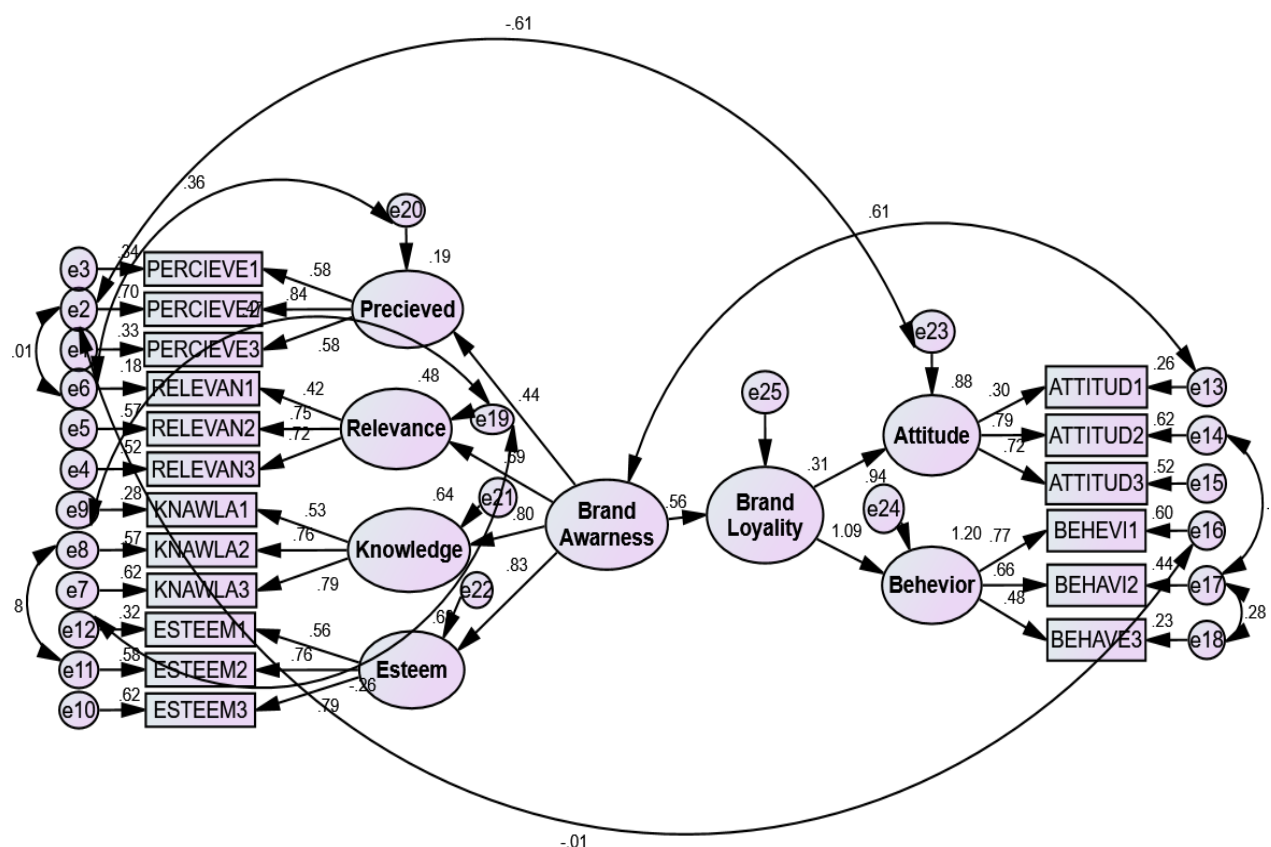
### 3. INVESTIGATION APPROACH AND DESIGN

This Quantitative research design aims to develop Confirmatory factor analyses(CFA) data set to confirmed Factor loading indicators, and model fit indices for public and private banks of Ethiopia, Bule Hora Branch, with the Second order of multiple t model of data fit indices to use and select parameters for model estimation the output summery is already very large value of items with standardized regression, with brand awareness determinants, Perceived Awareness, Relevance Awareness, Knowledge Awareness and Esteem Awareness, and Brand Loyalty, determinants, like Attitudinal loyalty and Behavioral loyalty.

A quantitative approach data to be served research in many ways and the justifications support why quantitative approach will be selected forth is research most of the empirical investigations of second Order CFA of Brand Awareness with Brand Loyalty in private and Public Banks of Ethiopia Bule Hora town, and this approach that has to be designed CFA research designed that has to be developed Factor Loading and Model fit Indices, data has collected from Customer of Banks and Employee of Banks in West Guji Zone Bule Hora Public and Private Banks of Ethiopia Bule Hora Town for total 384 respondents, from probability simple random and Systematic sampling techniques, Blanco-Donoso, L. (2019), Conditional Effect process model is a mediation model, and there are indirect and direct effects, Goodboy, A. K. (2020).

### 4. SECOND ORDER (CFA) MEASUREMENT MODEL

**Figure2. Second Order of multiple Models**



Source: Second Order or multiple Models (2023)

## 5. FACTOR LOADING FOR SECOND ORDER MODEL

**Table1. Factor Loading for Second Order or Multiple Model**

Variables		variables	Estimate	Status
Brand_Loyalty	<---	Brand_Awareness	.560	High Loading
Knowledge	<---	Brand_Awareness	.799	High Loading
Relevance	<---	Brand_Awareness	.693	High Loading
Precieved	<---	Brand_Awareness	.441	Medium Loading
Attitude	<---	Brand_Loyalty	.938	V. High Loading
Esteem	<---	Brand_Awareness	.826	V. High Loading
Behavior	<---	Brand_Loyalty	.944	High Loading
PERCIEVE3	<---	Precieved	.578	High Loading
PERCIEVE2	<---	Precieved	.838	V. High Loading
PERCIEVE1	<---	Precieved	.581	High Loading
RELEVAN3	<---	Relevance	.723	High Loading
RELEVAN2	<---	Relevance	.753	High Loading
RELEVAN1	<---	Relevance	.623	High Loading
KNAWLA3	<---	Knowledge	.788	High Loading
KNAWLA2	<---	Knowledge	.758	High Loading
KNAWLA1	<---	Knowledge	.526	High Loading
ESTEEM3	<---	Esteem	.787	High Loading
ESTEEM2	<---	Esteem	.763	High Loading
ESTEEM1	<---	Esteem	.563	High Loading
ATTITUD1	<---	Attitude	.305	Medium Loading
ATTITUD2	<---	Attitude	.788	High Loading
ATTITUD3	<---	Attitude	.721	High Loading
BEHEVI1	<---	behavior	.773	High Loading
BEHAVI2	<---	behavior	.664	High Loading
BEHAVE3	<---	behavior	.477	Medium Loading

The Confirmatory factor analyses (CFA), Second Order Measurement model of data fit indices to use and select parameters for model estimation the output summery is already very large value of items with standardized regression. Gada Gizachew Wakjira (2022), Factor Loading factor of the higher the factor loading the better and the loadings rules of thumb, loading factor from between medium, good and excellent below 0.30 are poor loading, from medium from 0.31-0.50 result shows Medium, and from 0.51-0.70 very good, from 0.71 to 0.99 output result Excellent and these rules of thumb are based on the CFA second Order or multiple model factor loadings are correlations between the variable and factor, so the squaring of the loading yields a variance are highly accounted for, the numbers at the upper right-hand corner of each observed variable are the squared multiple correlations for each observed variable. Based on this reason the factor from Behavior to BEHAVE 3, from Attitude to ATTITUD1, BUSPER 1, from Brand Awareness to Brand Awareness are medium estimate factor loading, and the remaining one based on the Chung and Subramanian C. (2020), the assessment of Brand Awareness with Brand Loyalty of private and public banks of Ethiopia to interconnect with online network, Business share, to expand and

promote each other and the relationship between each other are correlational high contribution in each other, the second order confirmatory factor analyses factor loading output result value high and very high loading to the variables in private and public banks of Ethiopia, Bule Hora town are valid and high construct of private and public Bank of Ethiopia.

## 6. MODEL FIT SUMMARY OF DATA INDICES

**Table2. Fitness indices for Second Order model**

NO	Model	Indices	Criterion	value	Decision
1	CMN	Chi-square ( $\chi^2$ )	Low	1.573	Accepted
2		Degree of Freedom Df	< 3	.118	Accepted
3		(P- value)	$\leq .05$	.000	Accepted
4		Normed chi-square	< 20	185.595	Accepted
5	RMR and GFI	Root Mean Square error (RMR)	$\leq .05$	.066	Accepted
6		Goodness of fit index (GFI)	> .90	.950	Accepted
7		adjusted goodness of fit index (AGFI)	> .90	.927	Accepted
8		Parsimony goodness fit index (PGFI)	<.80	.655	Accepted
9	Baseline Comparison	Normed fit index (NFI)	> .90	.927	Accepted
10		Relative fit index (RFI)	< .90	.895	Accepted
11		Incremental fit index (IFI)	>.90	.972	Accepted
12		Tucker kiwis index (TLI)	>.95	.953	Accepted
13		comparative fit index (CFI)	>.95	.972	Accepted
14	Parsimony Adjusted Measure	PRATIO	$\leq .08$	.771	Accepted
15		Parsimony Normed fit index (PNFI)	$\leq .08$	.715	Accepted
16		Parsimony Criterion fit index (PCFI)	$\leq .08$	.749	Accepted
17	NCP	Non – Centrality Parameter (NCP)	$\geq .05$	17.595	Accepted
18		LO 90	$\leq .05$	.494	Accepted
19		HI 90	$\leq .05$	108.630	Accepted
20	FMIN	FMIN	$\leq .05$	.480	Accepted
21		FO	$\leq .05$	.175	Accepted
22	RAMSEA	Root Mean square error of Approx. RMSEA	$\leq .05$	.038	Accepted
23		PCCLOSE	$\geq .05$	.168	Accepted
24	AIC	Akaike Information Criterion (AIC)	$\leq .05$	291.595	Accepted
25		BCC	$\leq .05$	297.068	Accepted
26		Bayesian Information Criterion (BIC)	$\geq .05$	501.528	Accepted
27	CAIC	Constant Akaike Information Criterion (CAIC)	$\geq .05$	554.520	Accepted
28		Expected Cross Validation Index (ECVI)	$\geq .05$	.753	Accepted
29		MECV	$\geq .05$	.788	Accepted

**Source: Fit indices for Second Order model (2023)**

The CFA Second Order multiple parameter model fit data indices for model resulted in a very large value of items with standardized regression model fit indices confirmed for assessment of Brand Awareness with Brand Loyalty, in Case of Private and Public Banks of Ethiopia, Bule Hora Branch



has based on the output result that assessed less than 0.50 of CMN Model result of Chi-square of direct effect of 1.573 of model fit data indicates the difference between observed, and expected covariance matrices, and the hypotheses of this model of Brand Awareness that succeeded that with a significant P-value of .000, NPAR .53, Degree of Freedom 118, CMIN value is 185.595 and GFI Model of a RMR, .066, GFI results .950, AGFI Results .927, with baseline comparison model NFI Result .927, RFI .895, IFI .972, TLI .963, CFI result .972 With parsimony adjusted measure result of PARATO .771, PNFI .715, .PCFI .749, NCP. 17.595, Log 90 34.494, HI90 108.630, FMIN .480, FO .175, along with the RMSEA value of .038, PCLOSE .138, AIC 291.595, BCC 297.068, BIC 501.528, CAIC 554.528, ECVI .753 and MECV .768 results, it implies that the best model fit result of high CFA data result are highly fit and the Brand Awareness success determinant of Perceived Awareness, Relevance Awareness, Knowledge Awareness and Esteem Awareness, Brand Loyalty of private and Public CBE banks to determine, Attitudinal Loyalty and Behavioural Loyalty Ethiopian has a Brand promotion of both private and public Banks of Ethiopia to interconnect public banks and private banks with other technology to use ATM, Mobile Banking, Western Union, Master card, Visa Card, PayPal and link Ethiopian Banks with global and awareness of community how to use effectively and efficiently to upgrade the scarcity of money and to use the other technology, and other wastage of CBE and eliminate the customer load and satisfy the public to serve each bank of Ethiopia to aware the community Perceived Awareness, Relevance Awareness, Knowledge Awareness and Esteem Awareness to expand the usage of data and loyalty of private and public bank of Ethiopia.

## 7. CONCLUSION

The Confirmatory factor analyses of Second Order Measurement model of data fit indices to use and select parameters for model estimation the output summery is already very large value of items with standardized regression Factor Loading factor of the higher the factor loading the better and the loadings rules of thumb, loading factor from between medium, good and excellent below 0.30 are poor loading, from medium from 0.31-0.50 result shows Medium, and from 0.51-0.70 very good, from 0.71 to 0.99 output result Excellent and these rules of thumb are based on the CFA second Order factor loadings are correlations between the variable and factor, so the squaring of the loading yields a variance are highly accounted for, the numbers at the upper right-hand corner of each observed variable are the squared multiple correlations for each observed variable. Based on this reason the factor from Behavior to BEHAVE 3, from Attitude to ATTITUD1, BUSPER 1, from Brand Awareness to Brand Awareness are medium estimate factor loading, and the remaining one based on the assessment of Brand Awareness with Brand Loyalty of private and public banks of Ethiopia to interconnect with online network, Business share, to expand and promote each other and the relationship between each other are correlational high contribution in each other, the second order confirmatory factor analyses factor loading output result value high and very high loading to the variables in private and public banks of Ethiopia, Bule Hora town are valid and high construct of private and public Bank of Ethiopia.

The CFA Second Order multiple model fit data indices for model resulted in a very large value of items with standardized regression model fit indices confirmed for assessment of Brand Awareness with Brand Loyalty, Aklisiya Mitiku, (2021), in Case of Private and Public Banks of Ethiopia, Bule Hora Branch has based on the output result that assessed less than 0.50 of CMN Model result of Chi-square of direct effect of 1.573 of model fit data indicates the difference between observed, and expected covariance matrices, and the hypotheses of this model of Brand Awareness that succeeded that with a significant P-value of .000, NPAR .53, Degree of Freedom 118, CMIN value is 185.595 and GFI Model of a RMR, .066, GFI results .950, AGFI Results .927, with baseline comparison model NFI Result .927, RFI .895, IFI .972, TLI .963, CFI result .972 With parsimony

adjusted measure result of PARATO .771, PNFI .715, .PCFI .749, NCP. 17.595, Log 90 34.494, HI90 108.630, FMIN .480, FO .175, along with the RMSEA value of .038, PCLOSE .138, AIC 291.595, BCC 297.068, BIC 501.528, CAIC 554. 528, ECVI .753 and MECV .768 results, it implies that the best model fit result of high CFA data result are highly fit and the Brand Awareness success determinant of Perceived Awareness, Relevance Awareness, Knowledge Awareness and Esteem Awareness, Brand Loyalty of private and Public CBE banks to determine, Attitudinal Loyalty and Behavioural Loyalty Ethiopian has a Brand promotion of both private and public Banks of Ethiopia to interconnect public banks and private banks with other technology to use ATM, Mobile Banking, Western Union, Master card, Visa Card, PayPal and link Ethiopian Banks with global and awareness of community how to use effectively and efficiently to upgrade the scarcity of money and to use the other technology, and other wastage of CBE and eliminate the customer load and satisfy the public to serve each bank of Ethiopia to aware the community Perceived Awareness, Relevance Awareness, Knowledge Awareness and Esteem Awareness to expand the usage of data and loyalty of private and public bank of Ethiopia.

## 8. RECOMMENDATIONS

Some key indicators of Second order should be selected to perform, data and to run the estimation is so hard, such as participation to use and aware community how to now used Digital system of banks are still low perception, in the issue of the sufficiency economy philosophy into action of school from the main components of the Knowledge, Acquisition, try to know about digital media and market is so very less, training is essential to community that can be applied, as well as indicators of promote and encourage the keep to know about digital awareness and brand awareness is law to implement in Ethiopia, the indicators or brand awareness like Perceived Awareness, Relevance Awareness, Knowledge Awareness and Esteem Awareness of a of banks are insufficient economy network within the banks on motivational process of employee in banks is so less perception.

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