European Economic Letters
ISSN 2323-5233
Vol 13, Issue 4 (2023)
http://eelet.org.uk

Higher Education Students' Propensity to Embrace and Use New Technology Based Services: An Empirical Study

Shubhangi Jore[1*], Nidhi Asthana[2]

[1*]School of Business Management, SVKM's Deemed to be University, Indore, India, Email: shubhangi.jore@nmims.edu
[2]School of Technology, Management and Engineering, SVKM's Deemed to be University, Indore, India
Email: nidhi.asthana@nmims.edu

Abstract
Understanding and analysing the consumers with respect to their adoptability of technology – based services, the time and process through which these services are accepted and practiced is of much importance. There is need to understand all the drives and insights that may influence customers' technology readiness. As the requirements of technology ready customers will ultimately affect the strategies that are implemented to develop new services. What people are thinking about new technology, their beliefs about the same and advancement in the technology is need of the hour. It has become very important to analyse people's belief about technology so that further their predispositions to use it and prediction of their perception can be identified and analysed. In recent years the advancement in the Indian technology sector in terms of smartphones and laptops is seeing tremendous competitiveness, growth, efficiency, profitability and soundness. By comparing the technology readiness of some of the widely used electronic gadgets such as smartphones and laptops, we can find out how fast people are accepting new technology. The purpose of this paper is to test the validity of Technology Readiness Index (TRI) (Parasuraman, 2000) with respect to management students in Indore city. Present study is an attempt to identify the factors that affect adoption of technology-based services amongst higher education students. To explore whether there is any significant classification of higher education students with respected to the factors affecting adoption of technology-based services. The study also aims at exploring how demographics variables may help to explain adoption and use of technology-based products and services. A sample of size 200 respondents was collected though non-probabilistic convenient sampling using the standard scale on Technology Readiness Index (Parasuraman, 2000). Multivariate data analysis techniques were applied to analyse the data. The results support the TRI validity in Indore city. The study also suggests that demographic variables play an important role in predicting pro-technological behaviour in the city. This will enable both businesses and government to develop strategies for new services based on advanced technology.

Keywords: Technology Readiness, Higher Education Students, Propensity to embrace, confirmatory factor analysis, Reliability

I. INTRODUCTION

Technological services are also known as virtual services such as Internet Banking, e-commerce, e-governance, or distance-learning. Traditional commerce has upgraded to automation in terms of automated tailoring machine, credit cards, debit cards and bar codes with the advancement in technology. The consumer today is living with the changing dynamics of technology

The consumer of today's era is blessed to live with the changing dynamics of technology. The technological apparatuses are growing in quantity, the number of products and services based on technology which may be used at workplace, home, or leisure, etc. are growing exponentially. According to Parasuraman [14], despite of this growth in number and quantity, consumers are not able to enjoy the benefits of these devices as they expected. There are growing evidence where consumers, rather being benefited, has developed a sort of frustration in dealing with technological systems or auto-services. Customers gets opportunity to interact with these devices and machines interact with machines and equipment instead of offering personal treatment, a form of service still very much sought after the use of technology and technology-based product and services is increasing day by day in the recent times. With the increase usage and development of the technology it has become vital to the extent that on one side it has benefited the users and on the other side it has started creating frustration in dealing with technology-based systems.

Technology at one end offers opportunity for innovative services, it also generates hazards to traditional business models [44, 45, 46, 47]. The factors that affect the way consumers adopt advanced and dynamic growth of technologies may be that technology is available easily, it is convenient, the level of requirement of consumers and the level of security just to name a few [48, 45]. With the passage of time and advancement in technology a number of researchers have attempted to address the technological adoption issues. There have been several researchers addressing the consumers' adoption of new technologies, various theories leading to the development of the novel technology single platform E-payment theoretical framework. [49, 50, 51, 52, 53, 54]. Technology acceptance models and theories leading to the development of the novel technology single platform E-payment theoretical framework [57].

Consumer's tendency to embrace new technologies so that they may be benefited is dealt with the technology readiness. The concept of technology readiness can further be referred to the approach consumers adopt it, how they feel flexible about it, any sort of lack of control over technology, feel of being competent, overwhelmed and sensing fuzziness towards technology [56, 57, 14, 3]. A technology ready index may also be considered as an efficiency enhancer for any economy in the stage of developing [58]. The lower level of technology readiness may lead to developmental issues showing poorer users' acquiescence towards the newest technology [59]. The level of technology readiness index of users and its association with new technologies plays a powerful role in the advancement of Nations. Also, the readiness towards new technology is likely to get influenced at different degrees by diversities in culture, mind-sets towards new ideas or innovations. Users are likely to welcome advancement in technology based on its experience, relative benefit, compatibility, suitability, and serviceability [49, 60]. Nevertheless, innovations' development is strongly backed by technology readiness [61], approach of consumers also plays an important role because of variations in person and place [62]. Additionally, respective strategies of countries and organizations can be revised, reviewed, or updated on the basis of the evaluation of technology readiness index. So far it has been observed that the Western cultures were on the focus of researching technology diffusion [63].

Technology can also help to make education a much more interactive and collaborative process. Emails, student portals, course-based websites, and video lectures are some of the technology-enabled resources that facilitate communication and teamwork among students. Colleges and universities have quickly adopted new technologies during COVID era. Institutes and Universities have experimented with online teaching on various platforms like Zoom, MS teams, Google Meet etc. In today's world some technologies have become integral parts of the higher education system.

II. REVIEW OF LITERATURE

In 2000 Parasuraman introduced the concept of Technology Readiness Index also known as TRI. He Stated that "People's prosperity to embrace and use new technologies for accomplishing goals in home life and at work. Beliefs and perceptions of people about technology can be measured using Technology Readiness Index. Initially Parasuraman define 26 indicators for measurement of TRI but Later Parasuraman, A. and Colby he reduced these 36 parameters into sixteen questions only. These 36 questions were categorized into 4 dimensions-optimism, innovativeness, discomfort, and insecurity. Parasuraman established that technology readiness drivers are optimism and innovativeness, and inhibitors are discomfort and insecurity.

Research in past years [1, 2, 3] proves that technology readiness index is a reliable model. Productivity of consumers towards new innovations, new technology and innovative ideas can be explored. [4] and [5] validated technology readiness model for their studies on e-insurance, electronic education, and telecommunication division. [6] employed technology readiness (TR) constructs in the context of public sector higher education institutions (HEIs) of Sultanate of Oman. Using a structured self-ministered questionnaire.

[7] shown the validity assessment of technology readiness among academicians which the instrument was adapted from TRI and UTAUT theory. The Exploratory Factor Analysis and Nomology analysis are used to do this such validity assessment. [8] has indicated that individual readiness is the crucial link between high potential and success in a new job (which is not the same as potential), as readiness is the ability to act "now." [9] developed the technology readiness level to assess the maturity of evolving technologies prior to incorporating them into a system or subsystem. [10] some glaring inadequacies related to Thai engineer readiness in working within other AEC member countries on engineering project. They conducted a confirmatory factor analysis using LISREL 9.1 software of 278 engineers selected from a population of 1,211 Thai Federation of Industries companies to investigate how need, gap, and competency affect readiness.

The Role of technology is very important in today's life. Also, it plays a vital role in progression of an economy of a country. The Indian technology sector in terms of high-tech products and services is seeing tremendous competitiveness, growth, efficiency, profitability, and soundness, especially in recent years. By comparing the technology readiness of Smartphones and Laptops we can find out how fast management students are accepting new technology. To fill in the gap, present study attempts to identify the factors that affect adoption of technology-based services amongst management students and to analyze them with confirmatory factor analysis.

III.RESEARCH METHODOLOGY

To achieve the objective to identify the factors that affect adoption of technology-based services amongst management students, the study utilizes cross-sectional descriptive research design. Such a research design is implemented with the objective to describe through a problem or a situation which helps in providing insight and understanding particularly at a specific time-period [12]. The population includes youngsters living largely in urban and semi-urban areas and pursuing their master's in management degree from a premier management institute situated in the central part of Madhya Pradesh state in the cleanest city Indore. The study was conducted to include participants studying in this institute with a sample of size 250 respondents comprising post graduate students in the age group of 18 to 26 years with a mean age of 23 year. After pre-treatment by disregarding missed responses, the sample so obtained confined of 200 students. Of them 55.5 percent were males and 44.5 percent female studying majorly, 52 percent with a marketing domain, 36 percent finance,

6 percent advertising and public relations, 3 percent international business and 4 percent personnel administration. The strength of students from first year batch of master's degree consists of 49 percent and second year 51 percent.
For the present study, the data was collected through a standard scale on Technology Readiness. Technology Readiness Index is a concept which measures the trends of people embracing a technology and contributes in a plenty of research since 2000s [13]. The survey instrument Technology Readiness Index (TRI) was developed by [14] which is a multi-item scale consist of 36 technology belief statements, both optimistic and pessimistic, related to one of the four TR dimensions. The four dimensions being Optimism (10 items), innovativeness (7 items), discomfort (10 items), and insecurity (9 items). All the items measured were in the category of self-assessment measured on a 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree) and were compulsory. Participants were able to fill their responses in about 6-9 minutes. 250 students were approached, through non-probability convenience sampling method, and were asked to fill the questionnaire of which 200 statistically valid answered questionnaires were gathered with a response rate of 80 percent.
Python algorithm is used to apply the chi square test and descriptive analysis on collected dataset. The Chi Square Test is one of the simplest and most widely used nonparametric test. It was introduced by Karl Pearson in the year 1990. The chi square statistics describes the magnitude of the discrepancy between theoretical and observed frequencies.
Following Assumptions should be satisfied before applying the Chi square test:

1. The trials are independent.
2. Sample size should be greater than 50.
3. If we have only two cells, the expected frequency in each cell should be 5 or more.
4. Samples must be drawn randomly.
5. The data should be expressed in original units rather than the percentage or ratio.

The chi square Test statistics is given by:

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Where: O=An observed frequency in particular category and E= An expected frequency for a particular category. With the help of chi square test, the association between two attributes can be identified.
On the same lines as that of the study done by [15], the present study, after appropriate reverse coding attempted to apply exploratory factor analysis to reduce the number of variables in the study. Confirmatory factor analysis (CFA) was further performed to verify the TRI instrument by using Analysis of a Moment Structures (AMOS, version 23). The primary objective of running CFA is to examine the relationships among the latent and manifest variables supported by logic or theory [16]. Multiple goodness of fit indices has been developed, such as comparative fit index (CFI), normed fit index (NFI), and root mean square error of approximation (RMSEA). The value of CFI and GFI lies between 0 and 1, and the value closer to 1 indicates a stronger relationship between variance and covariance [16]. Authors also focus on the comparative fit index (CFI) and normed fit index (NFI) to be more than 0.95 and 0.90, respectively [17] and RMSEA to be below 0.06 [18], that indicates the good model fit. To identify the degree of model fit, [17] also recommended to report incremental fit index (IFI). The cutoff values for an acceptable model fit are CFI and IFI values to be above 0.09 [19], [17] NFI above 0.80 [20], [21], [22] and RMSEA below .08 [18] , [23], [24].

IV.RESULTS AND DISCUSSION

The empirical analysis preceded by conduction of a systematic inspection of the data including identification for missing data, outliers and the characteristics of the considered variables in the present study. This section presents the results from the assesement of exploratory factor analysis (EFA) and the assesement of discriminant and nomological validity.

A. *Factor Analysis*

To extract the important factors that affect adoption of technology-based services amongst management students, EFA was implemented. Since large number of inconsequential variables could be clumsy, it made sense to focus on some key factors and hence, factor analysis was used to place variables into meaningful categories [25]. Other than extraction of important factor, the method of exploratory factor analysis is also used in numerous other situations such as data transformation, hypothesis-testing, mapping, and scaling [26]. To understand whether the perceptions can be "grouped" and to see the big picture in terms of understanding technology readiness of management students, reduce the 36 variables to a smaller number. As the perception variable regarding technology readiness is measured on a metric scale, R-type factor analysis is applied to understand the perceptions in a broad sense.
The overall significance of the correlation matrix is checked with the Bartlett test and factorability of the overall set of variables and individual variables using the measure of sampling adequacy (MSA) (Table I).

TABLE I. : KMO AND BARTLETT'S TEST

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.723
Bartlett's Test of Sphericity	Approx. Chi-Square	1319.57
	df	253
	Sig.	0.000

Source: Authors' calculation

In the first round of running factor analysis the KMO value was obtained as 0.764 and Bartlett's test of sphericity was significant at one percent level of significance. All individual MSA values were also suitable i.e., greater than 0.5. Two items Q24 and Q35 were cross loaded and were designated as problematic since the ratio of squared cross loading was respectively 1.02 and 1.34 which should be more than 2.0. These items were dropped and then second round of Factor analysis was run with varimax rotation. Again, there was a problem of cross-loading for the items 3, 8 and 10 and were dropped. In the third-round item of running Factor analysis item 33 was found with the loading less than the threshold level and item 21 was found to be problematic cross-loading with low (1.07) squared ratio of loading, hence dropped. Iterating the same way and dropping problematic cross-loading, as shown in the Table 2 the final value of the KMO reaches 0.723. Kaiser Meyer Olkin measure of sampling is calculated to test the overall interdependency of variables. From Table I, it is noted that the value of KMO is 0.723 which is more than 0.5, 26 variables corresponding to factors affecting the technology can be considered for factor analysis. Also, to test the null hypothesis that original correlation matrix is an identity matrix, Bartlett's test is used which is highly significant and gets rejected as p value is less than 0.05. The rejection of hypothesis indicates that *R*-matrix is not an identity matrix and hence, there exists a required level of interdependency in the data. It may be concluded that, KMO and Bartlett's tests are favourable to carry factor analysis further.

TABLE II. : FACTOR ANALYSIS ITERATIONS

Round	**Total input items**	**KMO**	**Problematic cross-loading (< 1.5) for items**	**Item with loading less than the Threshold level of 0.4**
1	36	0.764	Q24 and Q35	-
2	34	0.764	Q3, Q8 and Q10	-
3	31	0.764	Q21	Q33
4	29	0.768	Q7	Q23
5	27	0.757	Q11	-
6	26	0.755	Q9 and Q34	-
7	24	0.736	Q25	-
8	23	0.723	-	-

Source: Authors' calculation

The factor analysis is interpreted based on rotated factor loadings, rotated Eigenvalues, and Scree test [25]. To determine the number of factors to be extracted the summary of results of multiple criterions used is detailed in Table III. The latent root criteria of retaining factors with Eigenvalue greater than 1 (Table III) suggest that seven factors will be retained also supported by the Scree plot (Figure 1, Appendix). The seven-factor retained represent 61.596% of the variance of the 26 variables, deemed significant in terms of total variance explained. Combining all these criteria together leads to the conclusion to retain seven factors for further analysis.

TABLE III. : SUMMARY OF MULTIPLE CRITERIA TO EXTRACT FACTORS

Component Number	**Initial Eigen value**	**Cumulative Percent Variance explained**	**Decision**
1	4.905	13.373	Accept
2	2.118	22.417	Accept
3	1.775	31.303	Accept
4	1.596	39.330	Accept
5	1.408	46.983	Accept
6	1.257	54.545	Accept
7	1.108	61.596	Accept
8	0.978	-	Reject

Source: Authors' calculation

Factor analysis using principal component method with varimax rotation was applied on 23 variables; the results revealed that there are seven factors that affect the technology readiness perception of management students. The individual factors along with its variables, factor loading, and percent variance explained are detailed in Table IV

TABLE IV. : FACTOR LOADING WITH PERCENTAGE VARIANCE EXPLAINED

S. No.	Factor Name	Item		Factor load	% Variance explained	Dependent and Significant Pairs [Chi Square Analysis]
1	***Optimism***	q4	You prefer to use the most advanced technology available	0.80	**13.37**	Q.1 & 2, Q.1 & 4, Q.1 & 5 Q.2 & 4 Q.2 & 5 Q.2 & 6 Q.4 & 5 Q.4 & 6 Q.5 & 6
		q6	Technology makes you more efficient in your occupation	0.77		
		q2	Product and services that use the newest technologies are much more convenient to use	0.74		
		q1	Technology gives people more control over their daily lives.	0.69		
		Q5	Sometimes, you think that technology systems are not designed for use by ordinary people.	0.55		
2	***Innovative 1***	q19	Sometimes, you think that technology systems are not designed for use by ordinary people.	0.79	**9.044**	Q15 & 17 Q.15 & 20 Q.17 & 19 Q.17 & 20 Q.17 & 31 Q.19 & 21 Q.19 & 31 Q.20 & 31
		q17	You find you have fewer problems than other people in making technology work for you.	0.60		
		q20	There is no such thing as a manual for a high –tech product or service that's return in plain language	0.56		
		q31	You do not feel confident doing business with a place that can only be reached online	0.47		
		q15	You keep up with the latest technological developments in your areas of interest.	0.46		

3	***Insecurity***	q29	Technology always seems to fail at the worst possible time.	0.86	**8.886**	Q27 & 29 Q27 & 36
		q27	You do not consider it safe to do any kind of financial business or line.	0.74		
		q36	If you provide information to a machine or over the internet, you can never be sure it really gets to the right place	0.56		
4	***Innovative 2***	q16	Technical support lines are not helpful because they don't explain things in terms you understand	0.67	**8.027**	Q.13 & 18
		q13	You enjoy the challenge of figuring out high –tech gadgets	0.62		
		q18	In general, you are among first in the circle of friends to acquire new technology when it appears	0.59	**7.653**	
5	***Discomfort***	q26	New technology makes it too easy for governments and companies to spy on people.	0.84		Q26 & 28
		q28	You do not consider it safe giving out a credit card number over a computer.	0.67		
6	***Lack of Confidence***	q22	If you buy a high-tech product or service, you prefer to have the basic model over one with a lot of extra features.	0.74		Q22 & 30
		q30	You worry that information you send over the internet will be seen by other people	0.68		
7	***Innovative 3***	q14	You can usually figure out new high-tech products and services without help of others.	0.69	**7.051**	Q14 & 32
		q12	It seems your friends are learning more about the newest	-0.62		

			technologies than you are. (Reverse coded)			
		q32	Whenever something gets automated, you need to check carefully that the machine or computer is not making mistakes	-0.47		
			Cumulative Variance			

Source: Authors' calculation

B. *Chi Square Analysis:*

Applying Python Algorithm for calculating chi-square statistic to find whether there is any significant association between the pairs of 36 items of the TRI scale, 892 pairs were found significant. The null and alternate hypothesis framed are as follows:

Null Hypothesis H0: There is no association between pair of questions
Alternative Hypothesis H1: There is an association between the pair of questions

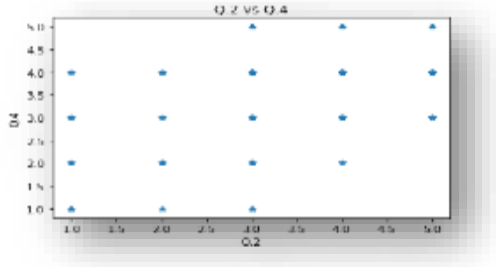
As an example, the output of descriptive Statistics for Q2- Product and services that use the newest technologies are much more convenient to use and Q4- You prefer to use the most advanced technology available is given in Fig. 1:
It can be easily observed that Arithmetic Mean, Median and Standard deviation for Q02 and Q04 are almost same. This indicates that respondents on an average agrees that it is convenient for them to use the product and services that use the newest technologies also they agree to prefer to use the most advanced available technology. Scatter Plot and Scatter Plot Matrix Output for the same are given in Fig. 2:

Fig. 1 Descriptive analytics for item q2 and q4

	Q.2	Q.4
count	200.000000	200.000000
mean	3.545000	3.595000
std	0.976083	1.007996
min	1.000000	1.000000
25%	3.000000	3.000000
50%	4.000000	4.000000
75%	4.000000	4.000000
max	5.000000	5.000000

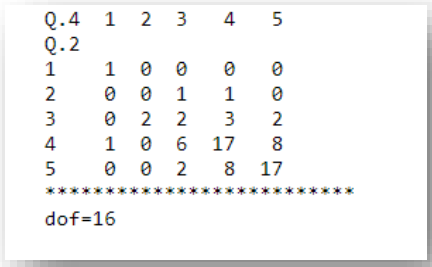
Fig. 2 Correlation and Scatter plot

	Q.2	Q.4
Q.2	1.000000	0.562556
Q.4	0.562556	1.000000



The plot is representing a moderate correlation between these two items and confirmed through the correlation of 0.56. Further, while running the python algorithm for chi square test at 5 % level of significance for Q.4 and Q.2 the output is shown in Fig. 3.

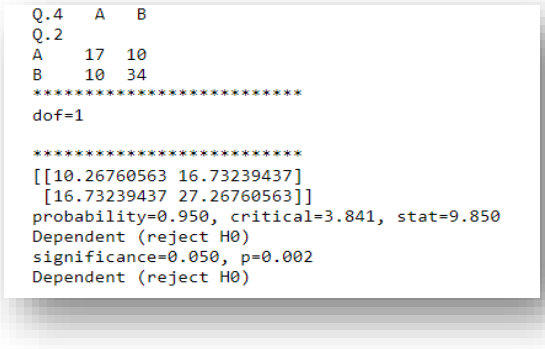
Fig. 3 Expected count



```
Q.4  1  2  3   4   5
Q.2
1    1  0  0   0   0
2    0  0  1   1   0
3    0  2  2   3   2
4    1  0  6  17   8
5    0  0  2   8  17
**************************
dof=16
```

The output shown does not follow one of the assumptions of expected count to be at least 5. To overcome of this problem, Rating 1 to 4 is merged to represent a single category A and rating 5 is denoted by category B. The pairs reflecting the significant chi-square statistic reduced to 692. The updated outcome is shown in Fig. 4.

Fig. 4 Expected count and chi-square statistic



```
Q.4   A   B
Q.2
A    17  10
B    10  34
*************************
dof=1

*************************
[[10.26760563 16.73239437]
 [16.73239437 27.26760563]]
probability=0.950, critical=3.841, stat=9.850
Dependent (reject H0)
significance=0.050, p=0.002
Dependent (reject H0)
```

It may be concluded that there is an association between Product and services that use the newest technologies are much more convenient to use and prefer to use the most advanced technology available. On the same lines the pairs showing significant association as depicted by p-value less than 0.05 are enlisted in the last column of table IV.

C. *Reliability Test*

The EFA reduced 23 variables to 7 components namely: Optimism, Innovative 1, Insecurity, Innovative 2, Discomfort, Lack of Confidence and Innovative 3. Before validating the results using CFA, the reliability test is conducted on each component which will indicate the suitable indicator for the emerged components.

Table V reveals the reliability test with or without indicator. The highest value is 0.799 and consists of all indicators together for component one – optimism which passes the usage criteria. Similarly, component 2, 3, 4 and 5 passes through the usage criteria while component 6 and 7 fails.

D. *Confirmatory Factor Analysis*

Confirmatory factor analysis (CFA) is employed further to identify the underline structure in the TRI theoretical model proposed by Parasuraman. CFA was carried out on the 23 items of 36 TRI scale. Here,12 items were excluded because of the problem of cross-loading or factor loading less than the threshold 0.5 factor loading. CFA was implemented, omitting component 4, 6 and 7 because of low reliability, on AMOS ver. 23 using maximum likelihood estimation method so that obtained measurement model, as shown in figure 1 can be tested. The confirmatory factor analysis revealed various fit indices, such as CFI, GFI, CFI, IFI, NFI and RMSEA.

The model fit indices are used to examine and confirm if the model is a good fit. The chi-square statistic is extremely sensitive to sample size [27], [23] with a sample of 200 for the present study, it may be considered sensitive. The results of CMIN/Df = 1.625, GFI = 0.958, IFI = 0.948, TLI = 0.912, CFI = 0.946, NFI = 0.876, RMSEA = 0.056 confirmed that the model hypothesized of the 23 item-structure of the TRI instrument was acceptable fit for considered data. The required fit indices CFI > 0.9, IFI > 0.9, NFI > 0.8, RMSEA < 0.08 were in the ranges of the cutoff values indicating an acceptable model fit. Refer Figure 1, the completely standardized loadings ranged between .55 and 0.84. It may be concluded finally that the results of the CFA confirmed to the model fit and it is acceptable between the proposed model and the observed

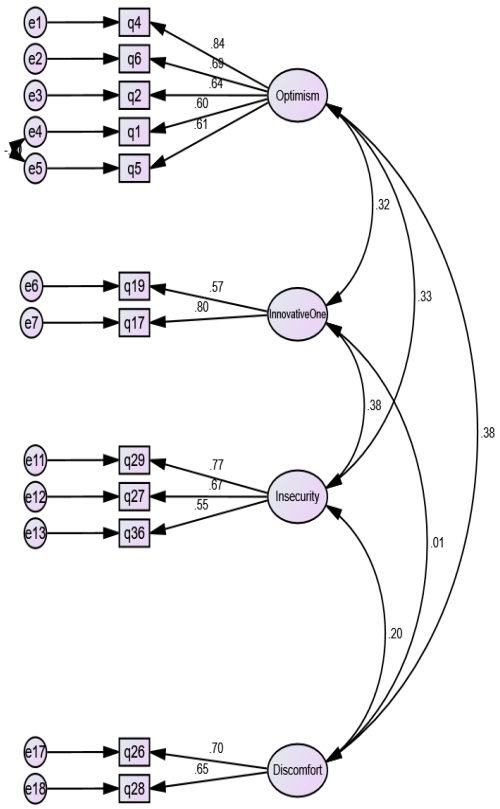
data. Referring table 10, all statistics of structured model passed the criterion of fitted model. According to fitted model, the factors loading, t-value, and R2 of all indicators show in the next table.

TABLE V. : RELIABILITY TEST FOR SEVEN CONSTRUCTS

Component	Cronbach's Alpha	N of Items	Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Optimism	0.799	5	q2	14.6	9.417	.583	.761
			q4	14.6	8.6	.727	.713
			q6	14.4	8.9	.617	.750
			q1	14.6	9.6	.501	.787
			q5	14.6	10.1	.488	.788
2. Innovative 1	0.640	5	q15	13.5	7.205	.354	.605
			q17	13.8	6.562	.471	.550
			q19	14.0	5.954	.505	.526
			q20	13.8	6.832	.338	.615
			q31	13.7	7.196	.306	.627
3. Insecurity	0.697	3	q27	6.9	2.761	.516	.602
			q29	6.8	2.626	.592	.501
			q36	6.7	3.174	.437	.695
4. Innovative 2	0.510	3	q13	7.0	2.633	.290	.467
			q16	6.7	2.217	.407	.259
			q18	6.8	2.772	.283	.475
5. Discomfort	0.627	2	q26	3.6	.935	.456	.
			q28	3.5	.943	.456	.
6. Lack of Confidence	0.464	2					
7. Innovative 3	0.225	3					

Source: Author's calculation on SPSS Ver. 25

Fig. 5 Measurement Model



Source: Author's Calculation on Amos Ver. 23

E. ***Internal Consistency Reliability***

The internal consistency reliability implies the degree with which the same concept is measured through every item in an individual scale (or sub scale). Two well-known methods: Cronbach's alpha coefficient and composite reliability, had widely been utilized to internal consistency reliability [11], [28], [29]. Present study has attempted to implement the suggestions given by [30] and [31] and has used composite reliability coefficient for the assessment of internal consistency reliability of technology readiness. As per literature by [31], [32], [33], and [30] the composite reliability should be greater than 0.7. Refer Table VII, the composite reliability coefficients, were all greater than 0.7 for three components and one with almost close to 0.7 and hence confirmed sufficient internal consistency reliability.

Convergent validity is be defined as the degree to which items indeed represent the proposed latent constructs and correlate with other measures of the same latent construct [34]. Referring the values of average variance extracted (AVE) corresponding to the latent constructs obtained, the convergent validity was determined. According to [33], the AVE loadings for each of the latent construct should be 0.5 or above. Table VII shows that the AVE obtained for optimism, innovativeness, discomfort and insecurity were found greater than standard the cut-off i.e., above or just equal to 0.5.

TABLE VI. : STATISTICS OF FITTED MODEL

Fit indices	**Values obtained for the present study**	**Literature Authors**	**Recommended value**
$\chi 2$	45.504, df = 20, p=0.020	[35], [36]	p-value > 0.05
CMIN/DF	1.625	[37], [38], [34]	< 5.0
GFI	0.958	[39], [40]	> 0.90
CFI	0.946	[38], [41]	> 0.90
RMSEA	0.056	[23], [17], [35]	< 0.08, < 0.05, < 0.08: good fit; 0.08 to .1 : moderate fit, >0.1 : poor fit
SRMR	0.0562	[34]	< 0.09
NFI	0.876	[20]	> 0.90
RFI		[35]	> 0.90
IFI	0.948	[35]	> 0.90
RMSR	0.056	[35]	< 0.05
PCLOSE	0.342	[34]	> 0.05

Source: Author's Calculation on Amos Ver. 23

Discriminant validity defines the level to which a certain item varies from the other one [42]. Discriminant validity is measured by assessing the cross-loadings which follows a rule where the items should have a higher correlation with the latent variable that they are supposed to measure than with any other latent variable in the model [33]. To further examine the discriminant validity, the square root of the AVE for each construct is used and it is placed in the correlation matrix next to the side of the diagonal [43]. If the squared AVE is greater than squared correlation estimates, i.e., the diagonal coefficients are greater than the off-diagonal coefficients elements in the corresponding rows and columns, then it confirms for the discriminant validity [33], [34]. Table IX provides the confirmation of discriminant validity. It may be concluded that all the measures of the TR have met the discriminant validity requirements.

TABLE VII. : Composite Reliability and Average Variance Extracted

	CR	**AVE**	**MSV**	**MaxR(H)**
Insecurity	0.708	0.504	0.147	0.732
Optimism	0.810	0.502	0.142	0.838
Innovative One	0.700	0.500	0.147	0.697
Discomfort	0.628	0.497	0.142	0.630

If AVE > 0.5, and if each factor loadings is greater than 0.5 then convergent validity is achieved

TABLE VIII. : STATISTICS OF FITTED MODEL

Standardized Regression Weights: (Group number 1 – Default model)

			Estimate
q4	←-	Optimism	0.84
q6	←-	Optimism	0.693
q2	←-	Optimism	0.643
q1	←-	Optimism	0.599
q5	←-	Optimism	0.606

q19	←-	Innovative One	0.572
q17	←-	Innovative One	0.803
q29	←-	Insecurity	0.769
q27	←-	Insecurity	0.675
q36	←-	Insecurity	0.555
q26	←-	Discomfort	0.702
q28	←-	Discomfort	0.65

Source: Author's Calculation on AMOS 23.

TABLE IX. : DISCRIMINANT VALIDITY

	Insecurity	**Optimism**	**Innovative One**	**Discomfort**
Insecurity	**0.672**			
Optimism	0.332	**0.682**		
Innovative One	0.384	0.323	**0.697**	
Discomfort	0.201	0.377	0.012	**0.676**

Source: Author's Calculation on AMOS 23.

V. CONCLUSION

The purpose of the present study was to identify the factors that affect adoption of technology-based services amongst management students and to validate them with confirmatory factor analysis. The findings of the study revealed that four of the seven constructs have met the criteria of model fit, validity and reliability demonstrated that the technology readiness constructs are appropriate majorly to some extent to measure TR in management students of tier two city of India. Also, the confirmatory factor analysis validated the results in terms of reliability, and validity tests which in other way established the appropriateness of TR dimension i.e., optimism, innovativeness, discomfort, and insecurity majorly. In the context of higher education, optimism and innovativeness can be considered as positive drivers while discomfort and insecurity can be negative drivers of technology readiness. Positive drivers encourage management students to adopt products and services related to technology with positive attitude while negative driver hinder their adoption of technology. The management students of tier two cities are experiencing positive attitude towards technology thereby increasing its comfort, acceptance and confidence and hence nurturing positive attitude towards teaching learning process and day to day activities.

For effective incorporation of technology and teaching learning experience, management institutes are recommended to educate students by promoting the uses of technology and fostering a positive mindset toward technology-based teaching practices within management institutes. Collection of regular feedback may also enhance the integration of technology. The focus of management could be drawn to the user-friendly interface of the applications to attract and overcome technology readiness inhibitors. Management institute could plan and act upon the professional training with the inclusion of technology-based interfaces for all the stakeholders be it faculties, students or staff for enhancing overall impact of technology.

Further research may be conducted considering the way TRI influence different stakeholder. The comprehensive investigation of the process of the way TRI affect students, teachers and staff may be studied with the behavioral aspect, adoption level of technology.

REFERENCES

1. Abu-Assi, Haneen A., Hani H. Al-Dmour, and M. F. Zu'bi. "Determinants of Internet Banking Adoption in Jordan." International Journal of Business and Management, vol. 9, no. 12, pp. 169-196, 2014.
2. Demirci, Ahmet Emre, and Nezihe Figen Ersoy. "Technology readiness for innovative high-tech products: How consumers perceive and adopt new technologies." The Business Review 11, no. 1 (2008): 302-308.
3. Son, Minhee, and Kyesook Han. "Beyond the technology adoption: Technology readiness effects on post-adoption behavior," Journal of Business Research, vol. 64, no. 11, pp. 1178-1182, 2011.
4. Summak, M. Semih, Murat Bağlıbel, and Mustafa Samancıoğlu, "Technology readiness of primary school teachers: A case study in Turkey," Procedia-Social and Behavioral Sciences, vol. 2, no. 2, pp. 2671-2675, 2010.
5. Massey, Anne P., Vijay Khatri, and Mitzi M. Montoya-Weiss. "Usability of OnlineServices: The Role of Technology Readiness and Context*." Decision Sciences 38, no. 2 (2007): 277-308.
6. Basharat Ali, Yusuf Nasidi, J.A Bamgbade, Gusman Nawanir," EXAMINING TECHNOLOGY READINESS CONSTRUCTS: A VALIDATION STUDY," Journal of Advanced Research in Business and Management Studies ISSN (online): 2462-1935, vol. 3, no. 1, pp. 71-84, 2016.
7. Rashidah Mokhtar 1, Nur Huda Jaafar2, Mohd Hanafi Azman Ong3, Zuriati Ismail4, Mazlyda Abd Rahman, "Validity Assessment of Technology Readiness Index Using Exploratory Factor Analysis and Nomology Analysis: Perspective From Academician For Education 4.0 Tools," Journal Of Critical Reviews ISSN- 2394-5125, vol. 7, no. 16, pp 803-810, 2020.

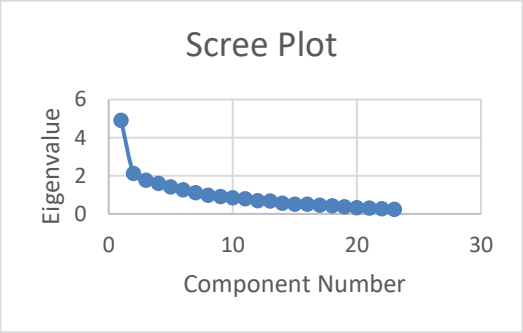
8. Korn Ferry Institute, The readiness linchpin: Closing the gap between potential and ready-to-promote. Retrieved from http://tinyurl.com/zpedlvy, 2015.
9. Fedkin, M., 2.2 Technology readiness levels (TRL)— Technical metrics. 2015. Retrieved from http://tinyurl.com/gujc8rb
10. Duangporn Kraisuth1 and Vinai Panjakajornsak,"Thai AEC Engineer Readiness: A Confirmatory Factor Analysis," SAGE Open January-March, pp. 1–16, 2018.
11. Bacon, Donald R., Paul L. Sauer, and Murray Young, "Composite reliability in structural equations modeling," Educational and Psychological Measurement, vol. 55 (3), pp. 394-406, 1999.
12. C. R. Kothari, Research Methodology-Methods & Techniques (second ed.), New Age International, 2004.
13. Rangsom, Kritiya, Khan-Am, Wasun, "An Confirmatory Factor Analysis for Developing TRI 2.0 Structured Model under Internet of Things Context," International Journal of Applied Computer Technology and Information Systems, vol. 8 (1), pp. 45-49, 2018.
14. Parasuraman, A., "Technology readiness index (TRI): A multiple-item scale to measure readiness to embrace new technologies," Journal of Service Research, vol. 2 (4), pp. 307-320, 2000.
15. Bohorquez, J. J., A. Dvarskas, & E. K. Pikitch, "Categorizing global MPAs: A cluster analysis approach," Marine Policy 108: 103663. 2019.
16. Schreiber, J. B.; A. Nora, F. K. Stage, E. A. Barlow, and J. King, "Reporting Structural Equation Modelling and Confirmatory Factor Analysis Results: A Review," Journal of Educational Research, vol. 99, no. 6, pp. 323-337, 2006.
17. Hu, L., & Bentler, P. M., "Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives," Structural Equation Modeling, vol. 6, pp. 1–55, 1999.
18. Browne, M. W., & Cudeck, R., Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), Testing structural equation models (pp. 445–455). Newbury Park, CA: Sage, 1993.
19. Bentler, P. M., "On the fit of models to covariances and methodology to the Bulletin," Psychological Bulletin, vol. 112(3), pp. 400–404, 1992.
20. Bentler, P. M. & Bonnet, D. C., "Significance tests and goodness of fit in the analysis of covariance structures," Psychological Bulletin, vol. 88(3), pp. 588-606, 1980.
21. Forza & Filippini, R., "Tqm impact on quality conformance and customer satisfaction: a causal model," International journal of production economics, vol. 55(1), pp.1–20, 1998.
22. Schumacker, R. E., & Lomax, R. G., A beginner's guide to structural equation modeling (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates, 2010.
23. Byrne, B. M., Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Concepts, applications, and programming. Mahwah, NJ: Erlbaum, 1998.
24. MacCallum, R. C., Browne, M. W., & Sugawara, H. M., "Power analysis and determination of sample size for covariance structure modeling," Psychological Methods, vol. 1, pp. 130–149, 1996.
25. Yong, A. G., S. Pearce., "A Beginner's Guide to Factor Analysis: Focusing on Exploratory Factor Analysis," Tutorials in Quantitative Methods for Psychology, vol. 9 (2), pp. 79-94, 2013.
26. Rummel, R.J., Applied factor analysis. Evanston, IL: Northwestern University Press, 1970.
27. Levesque, C., Zuehlke, A. N., Stanek, L. R., & Ryan, R. M., "Autonomy and competence in German and American university students: A comparative study based on self-determination theory," Journal of Educational Psychology, vol. 96(1), pp. 68–84, 2004.
28. McCrae, Robert R., John E. Kurtz, Shinji Yamagata, and Antonio Terracciano, "Internal consistency, retest reliability, and their implications for personality scale validity," Personality and social psychology review, vol. 15(1), pp. 28-50, 2010.
29. Peterson, Robert A., and Yeolib Kim, "On the relationship between coefficient alpha and composite reliability," Journal of Applied Psychology, vol. 98(1), pp. 194-198, 2013.
30. Hair, Joe F., Christian M. Ringle, and Marko Sarstedt, "PLS-SEM: Indeed a silver bullet," Journal of Marketing theory and Practice, vol. 19 (2), pp. 139-152, 2011.
31. Bagozzi, Richard P., and Youjae Yi, "On the evaluation of structural equation models," Journal of the academy of marketing science, vol. 16 (1), pp. 74-94, 1988.
32. Wong, Ken Kwong-Kay. "Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS," Marketing Bulletin, vol. 24, no. 1, pp. 1-3, 2013.
33. Chin, Wynne W., "The partial least squares approach to structural equation modeling," Modern methods for business research, vol. 295 (2), pp. 295-336, 1998.
34. Hair, Joseph F., William C. Black, Barry J. Babin, and Rolph E. Anderson, Multivariate Data Analysis, Eighth Edition, Cengage Learning, EMEA, UK, 2019.
35. Meyers LS, Gamst GC, Guarino AJ, Applied Multivariate Research: Design and Interpretation, Sage Publications, Thousand Oaks, 2005.
36. Tabachnick BG, Fidell LS, Using Multivariate Statistics. Sixth edition, Pearson, Northridge, 2012.

37. Marsh, H. W., & Hocevar, D., "Application of confirmatory factor analysis to the study of self-concept: First-and higher order factor models and their invariance across groups," Psychological bulletin, vol. 97(3), pp. 562-582, 1995.
38. Bentler, P. M., "Comparative fit indexes in structural models," Psychological Bulletin, vol. 107 (2), pp. 238-46, 1990.
39. Chau, P. Y., "Reexamining a model for evaluating information center success using a structural equation modelling approach," Decision Sciences, vol. 28(2), pp. 309-334, 1997.
40. Segar, H., & Grover, V., "Re-examining perceived ease of use measurements and perceived usefulness," MIS Quarterly, Vol. 17 No. 4, pp. 517-25, 1993.
41. Hatcher, L. A., Step-By-Step Approach to Using the SAS System for Factor Analysis and Structural Equation modelling, Cary, NC: SAS Institute, 1994.
42. Hulland, John, "Use of partial least squares (PLS) in strategic management research: A review of four recent studies," Strategic management journal, vol. 20 (2), pp. 195-204, 1999.
43. Fornell, Claes, and David F. Larcker, "Evaluating structural equation models with unobservable variables and measurement error," Journal of marketing research, vol. 18 (3), pp. 382-388, 1981.
44. Lai P. C, "The significant of E-business and knowledge-based Customer Relationship in the E-market Place Environment," INTI Journal, vol. 2 (1), pp. 552-559, 2006.
45. Lai, P. C., "The Chip Technology Management Implication in the Era of Globalization: Malaysian Consumers' Perspective," Asia Pacific Business Review, vol. 3(1), pp. 91-96, 2007.
46. Lai P. C., E-business and E-banking. Japan Society for Software Science and Technology, Itech research group, 2010.
47. Lai, P. C., "Design and Security impact on consumers' intention to use single platform E-payment," Interdisciplinary Information Sciences, vol. 22 (1), pp. 111-122, 2016.
48. Lovelock, C., Services Marketing, People, Technology, Strategy, Prentice Hall, New Jersey, 2001.
49. Meuter, M.L., Ostrom, A.L., Bitner, M.J., and Roundtree, R.I., "The influence of technology anxiety on consumer use and experiences with self-service technologies," Journal of Business Research, vol. 56 (11), pp. 899-906, 2003.
50. Dapp. T, Stobbe, A., and Wruuck P., "The future of (mobile) payments - New (online) players competing with banks," Deutsche Bank Research, 20th December 2012, pp.1-31, 2012.
51. Lai P. C. & Ahmad, Z. A., Perceived Enjoyment of Malaysian consumers' intention to use a single platform E-payment. Paper presented at International Conference on Liberal Arts & Social Sciences., 25th - 29th April 2014, Hanoi, Vietnam.
52. Lai P. C. & Zainal A. A., "Consumers' Intention to Use a Single Platform E-Payment System: A Study among Malaysian Internet and Mobile Banking Users," Journal of Internet Banking and Commerce, vol. (20) (1), pp. 1-13, 2015.
53. Lai P. C. & Zainal A.A, "Perceived Risk as an Extension to TAM Model: Consumers' Intention To Use A Single Platform E-Payment," Australia Journal Basic and Applied Science, vol. 9(2), pp. 323-330, 2015.
54. Lai, P. C., "Design and Security impact on consumers' intention to use single platform Epayment," Interdisciplinary Information Sciences, vol. 22 (1), pp. 111-122, 2016.
55. Lai, P. C., "The literature review of technology adoption models and theories for the novelty technology," JISTEM - Journal of Information Systems and Technology Management Vol. 14, No. 1, Jan/Apr., pp. 21-38, 2017.
56. Caison, Amy L., Donna Bulman, Shweta Pai, and Doreen Neville. "Exploring the technology readiness of nursing and medical students at a Canadian University." Journal of interprofessional care 22, no. 3 (2008): 283-294.
57. Ferreira, Jorge Brantes, Angela da Rocha, and Jorge Ferreira da Silva. "Impacts of technology readiness on emotions and cognition in Brazil." Journal of Business Research, vol. 67, no. 5, pp. 865-873, 2014.
58. Greenhill, R., Blanke, J., Hanouz, M. D., Dusek, M., Miller, M., Khatib, S., & Crotti, R, Arab World Competitiveness Report. Geneva: OECD World Economic Forum, 2012.
59. Kraemer, Kenneth L., Jason Dedrick, Nigel P. Melville, and Kevin Zhu, eds. Global e-commerce: impacts of national environment and policy. Cambridge University Press, 2006.
60. Rogers, Everett M. Diffusion of innovations. Simon and Schuster, 2010.
61. Shih, Chuan-Fong, Jason Dedrick, and Kenneth L. Kraemer. "Rule of law and the international diffusion of e-commerce." Communications of the ACM, vol. 48, no. 11, pp. 57-62, 2005.
62. Berndt, A. D., S. G. Saunders, and Daniel J. Petzer. "Readiness for banking technologies in developing countries." Southern African Business Review, vol. 14, no. 3, pp. 47-76, 2010.
63. Hu, H. F., Said S. Al-Gahtani, and Paul Jen-Hwa Hu. "Examining the moderating role of gender in Arabian workers' acceptance of computer technology." Communications of the Association for Information Systems, vol. 33, no. 1, pp. 47-66, 2013.

European Economic Letters
ISSN 2323-5233
Vol 13, Issue 4 (2023)
http://eelet.org.uk

APPENDIX I

Figure 1: Scree Plot



Source: Authors calculation

APPENDIX II

Rating: Strongly disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly agree (5)

S. No.	Statements	1	2	3	4	5	Status
1	Technology gives people more control over their daily lives.						
2	Product and services that use the newest technologies are much more convenient to use						
3	You like the idea of doing business via computer because you are not limited to regular business hours						eliminated
4	You prefer to use the most advanced technology available						
5	You like computer programs that allow you to tailor things to fit your own needs						
6	Technology makes you more efficient in your occupation.						
7	You find new technologies to be mentally stimulating						eliminated
8	Technology gives you more freedom of mobility						eliminated
9	Learning about technology can be as rewarding as the technology itself						eliminated
10	You feel confident that machines will follow through with what you instructed them to do.						eliminated
11	Other people come to you for advice on new technologies						eliminated
12	It seems your friends are learning more about the newest technologies than you are.(reverse coded)						
13	In general, you are among first in the circle of friends to acquire new technology when it appears.						
14	You can usually figure out new high-tech products and services without help of others.						
15	You keep up with the latest technological developments in your areas of interest.						
16	You enjoy the challenge of figuring out high –tech gadgets.						
17	You find you have fewer problems than other people in making technology work for you.						
18	Technical support lines are not helpful because they don't explain things in terms you understand.						
19	Sometimes, you think that technology systems are not designed for use by ordinary people.						
20	There is no such thing as a manual for a high –tech product or service that's return in plain language.						
21	When you get technical support from a provider of a high –tech product or service, you sometimes feel as if you are being taken advantage of by someone who knows more than you do.						eliminated
22	If you buy a high-tech product or service, you prefer to have the basic model over one with a lot of extra features.						

23	It is embarrassing when you have trouble with a high-tech gadget while people are watching						eliminated
24	There should be caution in replacing important people-tasks with technology because new technology can break down or get disconnected						eliminated
25	Many new technologies have health or safety risks that are not discovered until after people have used them.						
26	New technology makes it too easy for governments and companies to spy on people.						
27	Technology always seems to fail at the worst possible time.						
28	You do not consider it safe giving out a credit card number over a computer.						
29	You do not consider it safe to do any kind of financial business or line.						
30	You worry that information you send over the internet will be seen by other people						
31	You do not feel confident doing business with a place that can only be reached online.						
32	Whenever something gets automated, you need to check carefully that the machine or computer is not making mistakes						
33	Any business transaction you do electronically should be confirmed later with something in writing.						eliminated
34	The human touch is very important when doing business with a company.						eliminated
35	When you call a business, you prefer to talk to a person rather than a machine.						eliminated
36	If you provide information to a machine or over the internet, you can never be sure it really gets to the right place.						

APPENDIX III: RELIABILITY TEST OUTPUT

Reliability Statistics

Cronbach's Alpha	N of Items
.799	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
q2	14.6400	9.417	.583	.761
q4	14.5900	8.555	.727	.713
q6	14.3900	8.902	.617	.750
q1	14.5550	9.605	.501	.787
q5	14.5650	10.096	.488	.788

Reliability Statistics

Cronbach's Alpha	N of Items
.640	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
q15	13.5250	7.205	.354	.605
q17	13.7850	6.562	.471	.550
q19	13.9750	5.954	.505	.526
q20	13.7500	6.832	.338	.615
q31	13.7450	7.196	.306	.627

Reliability Statistics

Cronbach's Alpha	N of Items
.697	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
q27	6.8650	2.761	.516	.602
q29	6.7600	2.626	.592	.501
q36	6.7050	3.174	.437	.695

Reliability Statistics	
Cronbach's Alpha	N of Items
.510	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
q13	6.9800	2.633	.290	.467
q16	6.6850	2.217	.407	.259
q18	6.8350	2.772	.283	.475

Reliability Statistics	
Cronbach's Alpha	N of Items
.627	2

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
q26	3.6400	.935	.456	.
q28	3.5450	.943	.456	.

Reliability Statistics	
Cronbach's Alpha	N of Items
.464	2

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
q22	3.5000	.854	.302	.
q30	3.5950	.926	.302	.

Reliability Statistics	
Cronbach's Alpha	N of Items
.225	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
q14	7.0450	1.641	.217	-.092[a]
q32	6.8400	2.497	-.051	.499
q12_new	6.8850	1.751	.220	-.081[a]

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

TABLE CFA: MODEL FIT INDICES CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	27	45.504	28	.020	1.625
Saturated model	55	.000	0		
Independence model	10	366.470	45	.000	8.144

Model	RMR	GFI	AGFI	PGFI
Default model	.054	.958	.918	.488
Saturated model	.000	1.000		

European Economic Letters
ISSN 2323-5233
Vol 13, Issue 4 (2023)
http://eelet.org.uk

Model	RMR	GFI	AGFI	PGFI
Independence model	.204	.677	.606	.554

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.876	.800	.948	.912	.946
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Model	PRATIO	PNFI	PCFI
Default model	.622	.545	.588
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

Model	NCP	LO 90	HI 90
Default model	17.504	2.872	40.027
Saturated model	.000	.000	.000
Independence model	321.470	264.149	386.266

Model	FMIN	F0	LO 90	HI 90
Default model	.229	.088	.014	.201
Saturated model	.000	.000	.000	.000
Independence model	1.842	1.615	1.327	1.941

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.056	.023	.085	.342
Independence model	.189	.172	.208	.000

Model	AIC	BCC	BIC	CAIC
Default model	99.504	102.663	188.558	215.558
Saturated model	110.000	116.436	291.407	346.407
Independence model	386.470	387.640	419.453	429.453

Model	ECVI	LO 90	HI 90	MECVI
Default model	.500	.426	.613	.516
Saturated model	.553	.553	.553	.585
Independence model	1.942	1.654	2.268	1.948

Model	HOELTER .05	HOELTER .01
Default model	181	212
Independence model	34	38