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A META-ANALYSIS OF THE ROLE OF SUBJECTIVE NORM IN INFORMATION TECHNOLOGY ACCEPTANCE

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Abstract

We performed a quantitative meta-analysis on prior studies of the Technology Acceptance Model (TAM) to examine the influence of subjective norms. The first hypotheses were examined. The findings demonstrated a notable impact of subjective norms on perceived usefulness and behavioral intention to use. These findings are significant for managers in internal corporate operations and market-based environments.

Keywords - Technology acceptance model; Meta-analytic structural equation modeling; Subjective norm; Effect sizes; Random effects models

1. Introduction

Introducing Information Technology (IT) into business processes can yield substantial benefits, such as improved efficiency, enhanced communication, and better data management. However, companies often encounter several challenges when implementing IT solutions. These issues can arise from various technological, organizational, and human components. Lehtinen, E. et al. found that 52% of information systems (IS) and software engineering projects experienced delays, exceeded their budget, and did not match the expected functionality [1]. Researchers and organizations have been trying to find factors influencing an individual's acceptance of IT and enhancing its usage. In this context, the Technology Acceptance Model (TAM) is a widely used research framework for predicting individual users' adoption and acceptance of IS and technology [2]. The Technology Acceptance Model (TAM), developed by Davis et al. [3], is one of the most influential research models for determining the level of IS adoption at the individual level. The main variables in TAM are perceived ease of use and perceived usefulness.

While TAM has been employed, elaborated upon, and replicated in several studies, certain aspects remain ambiguous. Perceived usefulness, as defined by Davis [3], is the degree to which an individual believes that utilizing a particular system would improve their job performance. People tend to adopt or reject an application based on their perception of its ability to improve their work. Several studies found significant effects of it on the dependent variables [4, 5], while others found no conclusive effects [6, 7]. Secondly, limited consensus exists regarding the diverse settings in which TAM has been tested. Researchers have examined TAM with both student and non-student populations [8-10] across various technologies, including micro-computers and other domains [11-13], and in Western cultures as well as other contexts [14, 15].

The objective of our study was to provide a concise summary of the associations between perceived ease of use, perceived usefulness, attitudes, and intention. Our objective was to examine the relationships between these constructs using a meta-analytical structural equation model (MASEM). In addition, our research included the subjective norm, and we also investigated the impact of three different settings as moderating variables.

2. The technology acceptance model (TAM) concerning the acceptance of IT

The Technology Acceptance Model (TAM) is based on the Theory of Reasoned Action and the Theory of Planned Behavior [16] and the Theory of Planned Behavior [17]. It explains the elements that influence the use of technology and the intent to use it. Multiple iterations of the Technology Acceptance Model (TAM) have been developed, with some incorporating external factors and others exclusively emphasizing the actual utilization of technology as an outcome measure. Nevertheless, the core factors in TAM remain unchanged: Perceptions of how easy it is to use, perceptions of how valuable it is, attitudes towards technology, and intents to utilize technology [3].

Perceived ease of use refers to an individual's belief that technology will require minimal effort and be user-friendly. Similarly, the perceived utility of technology is the extent to which an individual believes that using technology would improve their job performance (Davis, 1986). Attitude can be described as the extent to which an individual possesses a positive or negative assessment or judgment of actions [17]. An individual's holistic assessment of technology constitutes a fundamental element of their attitudes toward technology [18] , shaping their intentions to utilize it.

In the year 2000, Venkatesh and Davis extended the original Technology Acceptance Model (TAM) to create Technology Acceptance Model 2 (TAM2) [19]. This model integrates social influence processes and cognitive instrumental processes. These processes play a crucial role in understanding user acceptance of technology. Research conducted by Venkatesh and Davis found that perceived usefulness, perceived ease of use, and subjective norm indirectly influenced actual system use through behavioral intention. Behavioral intention is shaped by the combined impact of perceived usefulness, perceived simplicity of

use, and subjective norm. The subjective norm has a direct and significant influence on the perceived usefulness, whereas the perceived ease of use is negligible, although it still has a significant effect on the perceived usefulness. This model provides valuable insights into how users perceive and adopt technology, bridging the gap between theoretical constructs and practical outcomes.

While some TAM2 studies have confirmed the significance of subjective norm relationships, other research still adhered to TAM guidelines [20, 21]. However, certain studies included subjective norms but did not find them to have a significant effect.

Therefore, we propose the following hypothesis:

H1. The validity of TAM2 as a baseline model for explaining technology adoption intention is confirmed.

H2. The impact of subjective norms on perceived usefulness and behavioral attitude is notably beneficial.

H3. The impact of perceived usefulness on attitude and intention is notably positive.

H4. The impact of perceived ease of use on attitude is notably positive.

H5. Attitude has a considerable favorable impact on behavioral intention.

H6. The TAM2 surpasses TAM in terms of interpretability.

A conceptual model was proposed in Fig. 2.

3. Research Methodology

Our study involved a quantitative meta-analysis to investigate whether published research findings showed convergence or divergence. We synthesized data from multiple studies by analyzing the interrelationships between distinct pairs of variables. We utilized a random-effects model to address the fact that the selected studies were independent and had distinct demographics. [22].

We conducted an extensive search using academic computer databases such as Scopus and ISI Web of Science, as well as using Google Scholar and library catalogs. The chosen publications satisfied particular criteria: they empirically evaluated the Technology Acceptance Model (TAM) while maintaining the integrity of TAM concepts. Relationships that could not be justified by TAM reasoning were removed, and a cross-sectional correlation matrix of the TAM constructs was presented.

3.1. Summary effects for correlations

We utilized the approach described [23], which considers both the within and between-study variance. In order to perform the meta-analysis on correlations, we utilized the open-source software R (version 4.4.0; R Development Core Team, 2024) together with the MetaSEM package [22].

In Table 3, we compiled the initial correlations for each study, considering the relationship between each pair of variables. A total of 10 pairs were examined. Cohen (1992) offered instructions for understanding the sample weighted average correlations (r+). The magnitude of the effect is considered minimal when the correlation coefficient (r+) falls within the range of 0.1 to 0.3, moderate when it varies from 0.3 to 0.5, and big when it exceeds 0.5.

Following the implementation of the model, two indices were utilized to assess the variability among studies: I^2 and the Q-test. I^2 is a measure that indicates the proportion of variance in the estimated effects due to heterogeneity rather than random chance. When I2 is above 75%, it indicates considerable heterogeneity, whereas values below 25% suggest low heterogeneity. The null hypothesis of the Q-test implies complete homogeneity (Cheung, 2015). Therefore, if the p-value is less than .05, we can infer that the studies are heterogeneous.

3.2. MASEM analysis

The analyses were conducted using the metaSEM R-package [22]. The second phase expanded the model to include the correlations between the prior constructs and behavior. This involved adding another endogenous variable, resulting in the creation of a comprehensive pooled 5x5 correlation matrix. The findings section presents the commonly used indices for assessing the quality of a Structural Equation Model (SEM). As indicators of a good fit to the data, it is usually assumed RMSEA $\leq$ 0.05, CFI $\geq$ 0.90 (if not 0.95), SRMR $\leq$ 0.08, and TLI $\geq$ 0.90.

4. Results

4.1. Description of studies

A comprehensive analysis of behavioral variables was conducted in 34 papers, encompassing 41 research studies. The complete list of articles may be seen in Table 2. If an article had numerous studies, it would take up more than one line in the table. The table also presented data on the categories linked to each article for the moderation analysis. The data collection procedure entailed acquiring Information regarding the participants, the particular technology under investigation, and the cultural environment in which the research was conducted.

Afterward, we classified the studies into two primary categories: 'students' and 'non-students.' In addition, we encountered decisions regarding categorizing the technologies analyzed in various studies. In theory, we can categorize them into four distinct groups: specialized software applications (such as word processors and database programs), Internet-related technology (including search engines and transactional websites), microcomputers, and communications technology (such as email and mobile technology). The groups mentioned above were additionally separated into microcomputers and non-microcomputers.

We also took culture into account. We differentiated between studies conducted in Western countries (including Europe, North America, Australia, and New Zealand) and those conducted in other regions.

4.2. Correlation analysis

All potential associations among the five constructs in our conceptual model were examined in our correlation analysis, resulting in 10 pairwise correlations. Table 4

demonstrates that these factors have been examined in a minimum of four separate research, except the SN-AT pair. The most often examined association in our sample (32 occasions) was assessed utility and perceived ease of use.

The I^2 values varied between 50.55% and 95.23% in the analyzed correlations, showing significant variability among the studies (refer to Table 4).

The Q statistic for assessing the homogeneity of the correlation matrix is calculated as Q(df = 107) = 1773.104, with a p-value less than 0.001. The Qtest consistently yielded p-values < 0.001, validating the investigation disparity. Hence, the implemented model has been validated as the suitable resolution for the present scenarios.

Table 1- The pooled correlation matrix

	SN	PU	PEU	ATT	BI
SN	1.00	0.148	0.105	0.111	0.160
PU	0.148	1.00	0.450	0.449	0.474
PEU	0.105	0.450	1.00	0.509	0.409
ATT	0.111	0.449	0.509	1.00	0.373
BI	0.160	0.474	0.409	0.374	1.00

4.3. MASEM results

The meta-analytic structural equation framework developed by Cheung (2015) [22] was employed to evaluate the relationships between variables and analyze the model's compatibility with the data. This tool can be utilized in a meta-analytical approach to calculate structural coefficients using the correlation matrix derived from a compilation of individual investigations. The traditional TAM served as the central component of our concept. In our model, we incorporated the subjective norms using TAM2. Specifically, we hypothesized that the subjective norm would impact perceived usefulness through internalization and the intention to apply the model through the compliance process. The depiction of our outcome model can be shown in Figure 1.

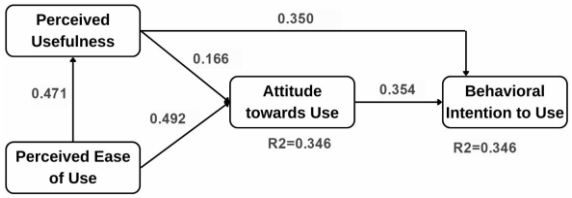

Figure 1 *- Structural model of original TAM (for all path coefficients, p < 0.01)*

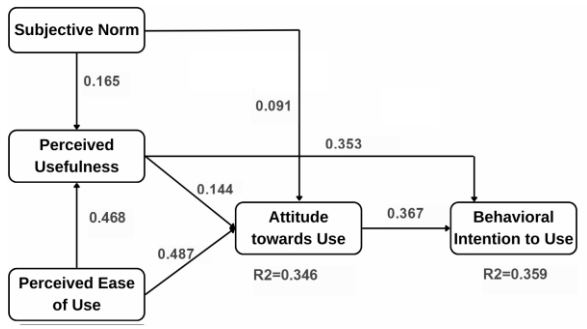

Figure 2 *- TAM2 structural model (for all path coefficients, p < 0.01)*

We initiated our work using the original Technology Acceptance Model (TAM). The findings of this model are displayed in Table 5, and all routes are statistically significant. Therefore, it is clear that the Technology Acceptance paradigm (TAM) is viable as a fundamental paradigm, supporting hypothesis H1. The goodness-of-fit indexes for the latter above the acceptable standards, with a chi-square value of 4.644 (df = 1, p = 0.0312), an RMSEA of 0.0245, an SRMR of 0.0617, a TLI of 0.946, and a CFI of 0.991. The model accounted for 34.6% of the attitude and behavioral intention variability.

The enlarged model includes the addition of subjective norms to perceived usefulness and subjective norms to attitude as additional routes. All routes in the extended model are statistically significant, supporting hypotheses H2, H3, H4, and H5. The fitting parameters of the expanded model outperform those of the original model (CFI = 0.989, TLI = 0.946, SRMR = 0.056, RMSEA = 0.0195). The model accounted for 34.6% of the variability in attitude and 35.9% in behavioral intention. Consequently, the model's ability to provide clear explanations is enhanced compared to the original model. Therefore, hypothesis H6 is confirmed.

The model was initially evaluated using data from all 41 trials (Model 1-TAM; $\chi 2(1) = 4.644$, p = 0.0312, RMSEA = 0.0245, SRMR = 0.0617, TLI = 0.946, CFI = 0.991). Specifically, the goodness-of-fit indexes of the latter exceed the permitted standards by a significant margin. Thus, the Technology Acceptance Model (TAM) seems to be validated as a suitable theoretical framework for forecasting the intention to use information technology. The test values of the TAM2 model are displayed in Table 5.

The R^2 values were 0.35 for attitude toward use and 0.36 for behavioral intention to use. This factor exhibits a marginally greater value compared to the original TAM model. Figure 2 presents the ultimate model, showcasing the path coefficients obtained from our Structural Equation Modeling (SEM) investigation.

5. Discussion and conclusions

Our endeavor aimed to analyze the degree of agreement or disagreement among study findings from multiple researchers that tested and expanded the Technology Acceptance Model (TAM) while considering subjective norms and the impact of various research settings on the obtained results.

The correlations between TAM2 variables and intention to use were confirmed. Figure 2 presents the ultimate model, showcasing the path coefficients obtained from our structural equation modeling (SEM) investigation.

A lack of correlation coefficients is revealed in the relationship between perceived norms and behavioral intentions. Undoubtedly, a more significant amount of data will yield more precise outcomes.

Managers should not only prioritize enhancing individual employee acceptance when using technology in their firm. It is essential to acknowledge the importance of

subjective norms, so the entire department and firm should develop a favorable attitude towards accepting the system. Support is recommended throughout the organization, which could involve creating a thorough training program and setting up a permanent help desk in a positive organizational environment.

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Table 2 - Studies used in meta-analysis

Author	Sample category	Respondents	Population	Culture
Agarwal 2000	Non-Microcomputer	288 students of a junior level statistics class of large state university	Non-students	Western
Anandarajan 2002	Microcomputer	143 employees of 9 organizations	Non-Students	Non-Western
Chang 2001	Non-Microcomputer	370 students and staff members of a university	Students	Western
Chau 2002	Non-Microcomputer	408 physician practicing in public tertiary hospitals	Non-Students	Non-Western
Cheung 2002	Non-Microcomputer	549 undergraduate students of a local university	Students	Non-Western
Devaraj 2002	Non-Microcomputer	134 online shoppers	Non-Students	Western
Featherman 2003	Non-Microcomputer	214 undergraduate business students of a large university	Students	Western
Featherman 2003	Non-Microcomputer	181 undergraduate business students of a large university	Students	Western
Henderson 2003	Non-Microcomputer	247 customers of a home shopping service	Non-Students	Western
Hsu 2004	Non-Microcomputer	233 visitors of game related message boards	Non-Students	Non-Western
Koufaris 2002	Non-Microcomputer	280 consumers	Non-Students	Western
Lau 2001	Non-Microcomputer	178 investors	Students	Non-Western

Liaw 2003	Non-Microcomputer	114 students of a medical college	Students	Non-Western
Lin 2000	Microcomputer	145 undergraduate students	Students	Non-Western
Liu 2003	Non-Microcomputer	127 students and faculty members of a major university	Students	Western
Lou 2000	Non-Microcomputer	192 students of a state university	Students	Western
Lou 2000	Non-Microcomputer	193 students of a state university	Students	Western
Lu 2008	Non-Microcomputer	128 students of a large university	Students	Non-Western
Money 2005	Non-Microcomputer	35 employees of major companies	Non-Students	Western
Pavlou 2003	Non-Microcomputer	103 undergraduate students	Students	Western
Pavlou 2003	Non-Microcomputer	155 randomly selected consumers	Non-Students	Western
Plouffe 2001	Non-Microcomputer	167 consumers participating in a trial of the smart-card	Non-Students	Western
Plouffe 2001	Non-Microcomputer	185 consumers not participating in a trial of the smart-card	Non-Students	Western
Plouffe 2001	Non-Microcomputer	172 merchants participating in a trial of the smart-card	Non-Students	Western
Plouffe 2001	Non-Microcomputer	80 merchants not participating in a trial of the smart-card	Non-Students	Western
Riemenschneider 2001	Non-Microcomputer	156 executives of small businesses	Non-Students	Western
Selim 2002	Non-Microcomputer	403 undergraduate students	Students	Non-Western
Stafford 2002	Non-Microcomputer	329 students of 2 universities	Non-Students	Western
Stylianou 2003	Non-Microcomputer	66 MBA students	Students	Non-Western
Suh 2002	Non-Microcomputer	845 Internet banking users of 5 major banks in Korea	Non-Students	Non-Western
Teo 2003	Non-Microcomputer	69 freshmen students	Students	Non-Western
Venkatest 2000	Non-Microcomputer	77 employees of medium sized firms	Non-Students	Western
Venkatest 2000	Non-Microcomputer	79 employees of medium sized firms	Non-Students	Western
Venkatest 2000	Non-Microcomputer	445 employees of 5 organizations	Non-Students	Western
Venkatest 2000	Non-Microcomputer	145 employees of a large real estate agency	Non-Students	Western
Venkatest 2000	Non-Microcomputer	215 employees of 4 organizations	Non-Students	Western
Venkatest 2003	Non-Microcomputer	133 employees of 4 organizations	Non-Students	Western
Yi 2003	Non-Microcomputer	109 students of a large state university	Students	Western
Yi 2003	Non-Microcomputer	201 business students of a local university	Students	Western
Yuen 2002	Microcomputer	186 students of a full-time teacher education programme	Students	Western
M. Featherman & Fuller, 2003, [24]	Non-Microcomputer	167 onsumer adoption of e-services	Non-students	Non-Western
Nguyen et al., 2022 [25]	Microcomputer	450 customer use video teller machine (VTM) services	Non-students	Non-Western

Table 3 - Summary of the studies considered for the meta-analysis

No.	Name	N	PU-PEU	PU-ATT	PU-BI	PEU-ATT	PEU-BI	ATT-BI	SN-PU	SN-PEU	SN-ATT	SN-BI
1	Agarwal 2000	288	0.038	n.r	0.226	n.r	0.094	n.r	n.r	n.r	n.r	n.r
2	Anandarajan 2002	143	0.310	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
3	Chang 2001	370	0.515	0.681	0.669	0.637	0.488	0.750	n.r	n.r	n.r	n.r
4	Chau 2002	408	0.000	0.185	0.194	0.000	n.r	0.130	n.r	n.r	n.r	0.026
5	Cheung 2002	549	0.490	0.690	0.450	0.470	0.260	0.460	0.000	0.000	0.000	0.220
6	Devaraj 2002	134	0.800	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
7	Featherman 2003	214	0.560	n.r	n.r	0.714	0.553	n.r	n.r	n.r	n.r	n.r
8	Featherman 2003	181	0.718	n.r	n.r	0.590	0.530	n.r	n.r	n.r	n.r	n.r
9	Henderson 2003	247	0.350	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
10	Hsu 2004	233	0.221	0.311	0.237	0.511	0.567	0.701	0.224	0.261	0.270	0.318
11	Koufaris 2002	280	0.680	n.r	0.620	n.r	0.470	n.r	n.r	n.r	n.r	n.r
12	Lau 2001	178	n.r	0.605	n.r	0.612	n.r	0.266	n.r	n.r	n.r	0.059
13	Liaw 2003	114	0.780	n.r	0.690	n.r	0.780	n.r	n.r	n.r	n.r	n.r
14	Lin 2000	145	0.680	0.710	0.720	0.730	0.680	0.750	n.r	n.r	n.r	n.r
15	Liu 2003	127	0.626	0.691	n.r	0.532	n.r	n.r	n.r	n.r	n.r	n.r
16	Lou 2000	192	0.384	n.r	0.561	n.r	0.315	n.r	n.r	n.r	n.r	n.r
17	Lou 2000	193	0.131	n.r	0.564	n.r	0.183	n.r	n.r	n.r	n.r	n.r
18	Lu 2008	128	0.360	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
19	Money 2005	35	0.795	n.r	0.704	n.r	0.635	n.r	n.r	n.r	n.r	n.r
20	Pavlou 2003	103	0.630	n.r	0.630	n.r	0.380	n.r	n.r	n.r	n.r	n.r
21	Pavlou 2003	155	0.720	n.r	0.640	n.r	0.570	n.r	n.r	n.r	n.r	n.r
22	Plouffe 2001	167	n.r	n.r	n.r	n.r	0.320	n.r	n.r	n.r	n.r	n.r
23	Plouffe 2001	185	n.r	n.r	n.r	n.r	0.200	n.r	n.r	n.r	n.r	n.r
24	Plouffe 2001	172	n.r	n.r	n.r	n.r	0.340	n.r	n.r	n.r	n.r	n.r
25	Plouffe 2001	80	n.r	n.r	n.r	n.r	0.400	n.r	n.r	n.r	n.r	n.r
26	Riemenschneider 2001	156	n.r	n.r	0.643	n.r	0.639	0.147	0.320	n.r	n.r	0.441
27	Selim 2002	403	0.560	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
28	Stafford 2002	329	0.490	n.r	0.729	n.r	0.491	n.r	n.r	n.r	n.r	n.r
29	Stylianou 2003	66	0.441	0.579	n.r	0.677	n.r	n.r	n.r	n.r	n.r	n.r
30	Suh 2002	845	0.702	0.141	0.095	0.035	n.r	0.234	n.r	n.r	n.r	n.r
31	Teo 2003	69	0.610	n.r	0.668	n.r	0.555	n.r	n.r	n.r	n.r	n.r
32	Venkatest 2000	77	0.230	n.r	0.500	n.r	0.292	n.r	0.012	n.r	n.r	0.048
33	Venkatest 2000	79	0.116	n.r	0.053	n.r	0.250	n.r	0.090	n.r	n.r	0.023
34	Venkatest 2000	445	0.180	n.r	0.044	n.r	0.200	n.r	n.r	n.r	n.r	0.120
35	Venkatest 2000	145	0.330	n.r	0.520	n.r	0.340	n.r	n.r	n.r	n.r	n.r

36	Venkatest 2000	215	n.r	n.r	n.r	n.r	n.r	0.250	n.r	n.r	n.r	n.r
37	Venkatest 2003	133	n.r	n.r	n.r	n.r	n.r	0.230	n.r	n.r	n.r	n.r
38	Yi 2003	109	0.290	n.r	0.520	n.r	0.350	n.r	n.r	n.r	n.r	n.r
39	Yi 2003	201	0.289	n.r	0.475	n.r	0.530	n.r	0.269	0.128	n.r	0.150
40	Yuen 2002	186	0.580	n.r	0.430	n.r	0.150	n.r	n.r	n.r	n.r	n.r
41	M. Featherman & Fuller, 2003,	450	0.657	n.r	0.646	n.r	0.565	n.r	0.426	0.304	n.r	0.415
No.	Name	N	PU-PEU	PU-ATT	PU-BI	PEU-ATT	PEU-BI	ATT-BI	SN-PU	SN-PEU	SN-ATT	SN-BI
1	Agarwal 2000	288	0.038	n.r	0.226	n.r	0.094	n.r	n.r	n.r	n.r	n.r
2	Anandarajan 2002	143	0.310	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
3	Chang 2001	370	0.515	0.681	0.669	0.637	0.488	0.750	n.r	n.r	n.r	n.r
4	Chau 2002	408	0.000	0.185	0.194	0.000	n.r	0.130	n.r	n.r	n.r	0.026
5	Cheung 2002	549	0.490	0.690	0.450	0.470	0.260	0.460	0.000	0.000	0.000	0.220
6	Devaraj 2002	134	0.800	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
7	Featherman 2003	214	0.560	n.r	n.r	0.714	0.553	n.r	n.r	n.r	n.r	n.r
8	Featherman 2003	181	0.718	n.r	n.r	0.590	0.530	n.r	n.r	n.r	n.r	n.r
9	Henderson 2003	247	0.350	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
10	Hsu 2004	233	0.221	0.311	0.237	0.511	0.567	0.701	0.224	0.261	0.270	0.318
11	Koufaris 2002	280	0.680	n.r	0.620	n.r	0.470	n.r	n.r	n.r	n.r	n.r
12	Lau 2001	178	n.r	0.605	n.r	0.612	n.r	0.266	n.r	n.r	n.r	0.059
13	Liaw 2003	114	0.780	n.r	0.690	n.r	0.780	n.r	n.r	n.r	n.r	n.r
14	Lin 2000	145	0.680	0.710	0.720	0.730	0.680	0.750	n.r	n.r	n.r	n.r
15	Liu 2003	127	0.626	0.691	n.r	0.532	n.r	n.r	n.r	n.r	n.r	n.r
16	Lou 2000	192	0.384	n.r	0.561	n.r	0.315	n.r	n.r	n.r	n.r	n.r
17	Lou 2000	193	0.131	n.r	0.564	n.r	0.183	n.r	n.r	n.r	n.r	n.r
18	Lu 2008	128	0.360	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
19	Money 2005	35	0.795	n.r	0.704	n.r	0.635	n.r	n.r	n.r	n.r	n.r
20	Pavlou 2003	103	0.630	n.r	0.630	n.r	0.380	n.r	n.r	n.r	n.r	n.r
21	Pavlou 2003	155	0.720	n.r	0.640	n.r	0.570	n.r	n.r	n.r	n.r	n.r
22	Plouffe 2001	167	n.r	n.r	n.r	n.r	0.320	n.r	n.r	n.r	n.r	n.r
23	Plouffe 2001	185	n.r	n.r	n.r	n.r	0.200	n.r	n.r	n.r	n.r	n.r
24	Plouffe 2001	172	n.r	n.r	n.r	n.r	0.340	n.r	n.r	n.r	n.r	n.r
25	Plouffe 2001	80	n.r	n.r	n.r	n.r	0.400	n.r	n.r	n.r	n.r	n.r
26	Riemenschneider 2001	156	n.r	n.r	0.643	n.r	0.639	0.147	0.320	n.r	n.r	0.441
27	Selim 2002	403	0.560	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r	n.r
28	Stafford 2002	329	0.490	n.r	0.729	n.r	0.491	n.r	n.r	n.r	n.r	n.r
29	Stylianou 2003	66	0.441	0.579	n.r	0.677	n.r	n.r	n.r	n.r	n.r	n.r

30	Suh 2002	845	0.702	0.141	0.095	0.035	n.r	0.234	n.r	n.r	n.r	n.r
31	Teo 2003	69	0.610	n.r	0.668	n.r	0.555	n.r	n.r	n.r	n.r	n.r
32	Venkatest 2000	77	0.230	n.r	0.500	n.r	0.292	n.r	0.012	n.r	n.r	0.048
33	Venkatest 2000	79	0.116	n.r	0.053	n.r	0.250	n.r	0.090	n.r	n.r	0.023
34	Venkatest 2000	445	0.180	n.r	0.044	n.r	0.200	n.r	n.r	n.r	n.r	0.120
35	Venkatest 2000	145	0.330	n.r	0.520	n.r	0.340	n.r	n.r	n.r	n.r	n.r
36	Venkatest 2000	215	n.r	n.r	n.r	n.r	n.r	0.250	n.r	n.r	n.r	n.r
37	Venkatest 2003	133	n.r	n.r	n.r	n.r	n.r	0.230	n.r	n.r	n.r	n.r
38	Yi 2003	109	0.290	n.r	0.520	n.r	0.350	n.r	n.r	n.r	n.r	n.r
39	Yi 2003	201	0.289	n.r	0.475	n.r	0.530	n.r	0.269	0.128	n.r	0.150
40	Yuen 2002	186	0.580	n.r	0.430	n.r	0.150	n.r	n.r	n.r	n.r	n.r
41	Fuller, 2003,	450	0.657	n.r	0.646	n.r	0.565	n.r	0.426	0.304	n.r	0.415

Table 4 - Results of correlation analysis.

Association	k	Total N	Weighted r+	CI 95% Ll	CI 95% UI	Q-test	I^2(Ll – Ul)
SN - PU	5	1139	0.148	0.058	0.238	443.96***	0.6081
SN - PEU	4	1139	0.105	0.003	0.207	833.06***	0.5055
SN - AT	2	782	0.111	-0.034	0.257	123.06***	0.6432
SN - BI	9	2326	0.16	0.082	0.238	626.23***	0.6844
PU - PEU	32	7193	0.45	0.364	0.536	457.21***	0.9365
PU - AT	9	2921	0.45	0.29	0.609	210.41***	0.9517
PU - BI	24	5706	0.475	0.391	0.559	128.30***	0.9250
PEU - AT	11	3316	0.509	0.367	0.652	83.87***	0.9209
PEU - BI	28	5452	0.41	0.337	0.483	322.09***	0.8854
AT - BI	10	3232	0.374	0.198	0.549	331.87***	0.9523

Table 5 - Summary of the indexes of the goodness-of-fit obtained for each tested MASEM

Model	χ^2(df)	p-value	RMSEA	RMSEA 95% Li	RMSEA 95% Ui	SRMR	TLI	CFI	AIC	BIC
Original TAM	4.6438 (1)	0.0312	0.0245	0.0060	0.0487	0.0617	0.9459	0.9910	2.6438	-4.0685
TAM2	6.6279 (2)	0.0364	0.0195	0.0042	0.0369	0.0556	0.9455	0.9891	2.6279	-10.7966

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