ARTICLE NO.2

RETAIL SERVICE QUALITY ASSESSMENT – A SCALE VALIDATION STUDY IN INDIAN PERSPECTIVE

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Abstract

Purpose: Studies on service quality measurement have majorly focused on SERVQUAL scale. But the SERVQUAL scale couldn't be adapted and validated within a retail setting, given the unique dimensions of service in the context of retail stores as compared to 'pure' service environment (like banking, brokerage, telecommunication etc). The paper aims to determine the validity of Retail Service Quality Scale (RSQS) as an alternative to SERVQUAL in the context of Indian retail environment.

Design/Methodology/Approach: The authors estimate validity of individual constructs forming part of RSQS. It incorporates three distinct validity types i.e. Content, Construct and Nomological Validity. Confirmatory Factor Analysis has been used towards validation and development of RSQS measurement model. On the basis of findings from validation exercise, fitness of measurement model and its adaptability in the Indian context have been reported.

Findings: RSQS model in original form is invalid in the Indian retail store environment. A four factor RSQS model excluding the '*Policy'* dimension revealed reliable and valid results in Indian context. The modified RSQS model demonstrates strong model fit indices.

Originality/Value: A valid RSQS in the Indian retail environment will be an asset for studying the organized retail settings. . The findings and recommendations will enable retail stores to gather insight into current levels of service quality as well as to conduct periodic 'checks' for assessing scope for service improvement. RSQS could serve as a diagnostic tool for retailers to identify service areas that are weak and in need of attention.

Keywords: Service Quality, RSQS, Retail, Validity

1. Introduction

Modern economy is in a state of flux and is characterized by uncertainty, sluggish growth rates and intense business rivalry. The organized retail sector forming a major part of economic set-up is no different in this regard. The retail environment in present times is changing more rapidly than ever before. It is characterized by competitive pressures from domestic and foreign companies, and demanding customers whose service expectations are perennially on the rise.

Thus given the current environment, modern retailers look towards differentiating themselves on the basis of service quality and overall customer shopping experience to remain competitive [Berry (1986), Hummel & Savitt (1988), Reichheld & Sasser (1990)]. Past researchers have

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majorly emphasized upon SERVQUAL scale towards assessing service quality across diverse service oriented settings. But, the validity of SERVQUAL scale in its original form is found wanting across certain service oriented economic sectors. Thus, a need have been felt within research circles to develop scales facilitating sector specific service quality assessment. The present study aims to offer a valid scale catering to service quality assessment of retail stores in the Indian context.

2. Review of Literature

Service quality has been one of the most discussed and debated concept in the research literature because of the difficulties in both defining it and measuring it with no overall consensus emerging on either (Wisniewski, 2001; Schneider and White, 2004). The most commonly used definition of service quality is the extent to which a service meets customers needs or expectations and it involves a comparison of customer expectations with customer perceptions of actual service performance. Companies need to provide services with such a quality that meet or exceed customer expectations. Customers, satisfied with service quality are most likely to remain loyal (Wong and Sohal, 2003). Delivery of quality services aids positioning in a competitive environment (Mehta *et al.*, 2000); and retention and patronage (Yavas, et al. 1997). The above benefits had been found to be true for customers in both transition and developed economies.

The service quality assessment scale development has been taken up by past researchers with mixed success. The extant literature comprises of scales established at an integrated level as well as at attribute level. Two broad categories of retail experiences important to customers at an integrated level are *in-store experiences* and *experiences related to the merchandise* (Westbrook 1981). In-store experiences comprises of interactions with store employees, and comfort or ease of moving around the store. On the other hand, merchandise related experiences include both quality and availability of desired merchandise. But, there may be significant overlap between the categories many a times. For instance, merchandise displays could be seen both as an in-store experience and an experience related to merchandise. Thus, based on the past research it is concluded that viewing service quality at integrated level does little to suggest the critical and separate dimensions of service quality that would be useful to researchers and retailers (Dabholkar, Thorpe & Rentz 1996).

From an attribute perspective, store layout and merchandise quality have been often cited as key drivers for retail service quality experience (Gutman & Alden 1985, Hummel & Savitt 1988, Mazursky & Jacoby 1985, Oliver 1981). According to (Westbrook 1981) and (Mazursky & Jacoby 1985) credit and charge account policies pursued by a store and the ease with which a certain store refunds or exchange merchandise are key considerations forming the basis of retail store evaluation by a customer.

Service quality in retailing is different from any other product/service environment on account of the unique nature of retail service, improvements and measurements of quality in retailing cannot be approached in the same way as that of the services perspective. In retail service, it is necessary to look at quality from the perspective of services as well as goods and derive a set of items that accurately measure this construct (Mehta *et al.*, 2000). For this reason, (Dabholkar *et al.*, 1996) developed and empirically validated the Retail Service Quality Scale (RSQS) to capture dimensions important to retail customers based on the triangulation qualitative research

technique. They conducted qualitative research using three different methodologies - phenomenological interviews, exploratory depth interviews, and tracking the customer through the store. Combining these qualitative findings with the existing literature and SERVQUAL, (Dabholkar *et al.*, 1996) proposed that retail service quality has a hierarchical factor structure comprising five basic dimensions, namely *'Physical Aspects'*, *'Reliability'*, *'Personal Interaction'*, *'Problem Solving'*, and *'Policy'*, with first three basic dimensions having two sub-dimensions each and overall service quality as a second order factor. The sub-dimensions of the basic dimension '*physical aspects*' are: '*appearance*' and '*convenience*'; the sub-dimensions of the basic dimension '*reliability*' are: '*promises*' and '*doing it right*'; and the sub-dimensions of the basic dimension '*personal interaction*' are: '*inspiring confidence*' and '*courteousness/helpful*'.

Encouraging results have been reported by the past researches focusing on the applicability of RSQS. Dabholkar *et al.* 1996 established the validity of the full RSQS model in the context of retail environment in USA. In the study by Mehta *et al.* 2000, RSQS was found to be superior within a 'more goods and less services' environment i.e. supermarket, while in retail segment demonstrating enhanced significance of service element, such as an electronic goods retailer, SERVPREF was found to be better suited. Kim & Jin, 2002 found RSQS to be relevant towards assessing service quality of discount stores in context of USA and South Korea. They were unable to find distinct *personal interaction* and *problem solving* dimensions for contexts under review. Further, the study did not find support for *policy* dimension. The study of Dabholkar *et al.* 1996 was replicated with encouraging results by (Boshoff and Terblanche, 1997). Their study established the applicability in the context of department stores, specialty stores and hypermarkets in South African retail environment. However, on a synoptic view of existing literature is evident that a scant availability of studies attempting to test the applicability of RSQS or other scales in the context of transition economies like India.

The views of past studies on the applicability of RSQS in the service quality assessment may be summarized as below:

Authors	***Context***	***Findings***	***Country***
Dabholkar *et al.* (1996)	Retail sector in general. A scale proposal study.	All the RSQS dimensions and sub-dimensions to be valid	USA
Mehta et al. (2000)	Supermarkets and Electronic goods retailers	RSQS was found superior within the context of a 'more goods and less services' environment, i.e. a supermarket, while SERVPERF was better for a retailing context where the service element	Singapore

		becomes more important, i.e. an electronic goods retailer	
Kim and Jin (2002)	Discount Store	The RSQS a useful scale for measuring service quality of discount stores across two different cultural contexts of U.S. and South Korea, though they did not find distinct personal interaction and problem solving dimensions or support for a distinct policy dimension	USA and Korea
Boshoff and Terblanche (1997)	Department Stores, Specialty stores and Hypermarkets	Highly encouraging results for the RSQS applicability	South Africa
Nguyen (2006)	Supermarkets.	Tested a model on the relationships between service quality, customer satisfaction and loyalty	Vietnam
Kaul (2007)	Apparel Stores	Tested RSQS model and found it to be ineffective predictor of retail service quality.	India

3. Research Methodology

The present study aims at empirically confirming the reliability and validity of RSQS in the context of Indian retail environment. As a baseline survey instrument the standard RSQS based questionnaire developed by Dabholkar, Thorpe and Rentz (1996) has been used for the study. The scale comprises of five major constructs i.e. *Physical Aspects*, *Reliability*, *Personal Interaction*, *Problem Solving* and *Policy* explaining the service quality experience of retail store customers. Each construct in turn is explained via distinct sets of statements being measured on a common intensity based 5 point Likert scale [Totally Disagree (1) – Totally Agree (5)].

The RSQS based questionnaire was administered to 400 respondents comprising of frequent customers of prominent organized apparel retail outlets having major presence across Indian National Capital Region (NCR) in particular and India in general. The selection of respondents has been done on a convenience basis. A total of 319 valid and complete responses have been used for the final study. On the basis of responses received Confirmatory Factor Analysis (CFA) has been conducted using AMOS, towards confirming the empirical reliability and validity of the RSQS model in Indian retail environment in the context of organized apparel retailers. Finally, as a study outcome, a valid and fit RSQS measurement model has been proposed.

5. Data Analysis and Findings

The study determines the construct wise Reliability using Cronbach Alpha estimates (Cronbach, 1951) and Validity (based on Model Fit estimates and Gakingston Validity Toolkit estimates).

5.1 Reliability Analysis

All constructs were found to be reliable as their individual CR values are greater than the floor estimate of 0.7 (Nunnally, 1978) (Table1). The construct wise reliability was estimated owing multi-dimensionality of the service quality constructs. In addition, the overall reliability of the measurement model was also established by achieving a Cronbach Alpha statistic of 0.95 (Table 2).

Table 1: Reliability and Validity Estimates (RSQS Measurement Model)

Construct	CR	AVE	MSV	ASV
Reliability	0.847	0.650	0.259	0.190
Physical Aspects	0.902	0.607	0.373	0.302
Personal Interaction	0.928	0.599	0.449	0.303
Policy	0.780	0.418	0.449	0.317
Problem Solving	0.864	0.564	0.260	0.179

Source: *Gakingston Validity Concerns Tool Kit Output*

ble 2: Reliability Statistics for RSQS M

Cronbach's Alpha	N of Items
.949	33

Source: *SPSS Output*

5.2 Validity Analysis

Towards establishing validity of independent constructs and over all measurement model Confirmatory Factor Analysis (CFA) has been carried out. Validity measures are mainly of three types viz. Content Validity and Construct Validity comprising of Convergent Validity and Discriminant Validity.

5.2.1 Content Validity

The content validity of a construct can be defined as the degree to which the measure spans the domain of the construct's theoretical definition (Rungtusanatham, 1998). For the purpose of this study content validity of the instrument was established in consultation with academicians, professional domain experts and retail executives.

5.2.2 Construct Validity

It involves the assessment of the degree to which an operationalization correctly measures its targeted variables (O'Learly-Kelly and Vokurka, 1998). According to them, establishing construct validity involves the empirical assessment of unidimensionality, reliability and validity (convergent and discriminant). In the present study, in order to check unidimensionality, a measurement model was specified for each construct and CFA was run for all the constructs. Individual items in the model were examined to see how closely they represent the same construct. A Comparative Fit Index (CFI) of 0.90 or above for the model implies existence of strong evidence of unidimensionality (Byrne, 1994). The CFI values obtained for all the five constructs in the scale are equal to or above 0.90 (Table 3) indicating a strong evidence of unidimensionality for the scale. Upon satisfaction of unimdimensionality and reliability parameters, the scale was further subjected to empirical validation analysis.

Table 3: Model Fit Indices for Individual Constructs of RSQS Model

Source: *AMOS Output*

Indices	Recommended Value	Reliability	Physical Aspects	Personal Interaction	Policy	Problem Solving
CFI	≥ 0.95	0.949	0.987	0.982	0.998	0.997
GFI	≥ 0.95	0.986	0.976	0.956	0.994	0.995
AGFI	≥ 0.80	0.949	0.936	0.920	0.977	0.975
CMIN/df	< 3	2.804	2.892	2.630	1.267	1.625
p-value	≥ 0.05	0.024	0.003	0.000	0.281	0.197
RMSEA	≤ 0.05	0.075	0.077	0.072	0.029	0.044
P close	≥ 0.05	0.171	0.097	0.045	0.620	0.429

Convergent Validity

Convergent validity refers to the degree to which multiple methods of measuring a variable provide the same results (O'Leary-Kelly and Vokurka, 1998). Convergent validity can be established with the help of Construct Reliability (CR) based on Cronbach Alpha and Average Variance Explained (AVE). Following criteria must be satisfied towards ensuring convergent validity: CR > 0.7, CR > AVE and AVE > 0.5 (Hair *et al.*, 2010).

The Alpha value of all the five constructs is higher than 0.7. AVE of four individual constructs were found to be greater than 0.5. For the construct *'Policy'* AVE statistic determined is

marginally below 0.5. Further, in case of all five individual constructs, the CR (Alpha) statistic is significantly greater than their respective AVE statistic (Table 1). Thus, all individual constructs, with the exception of *'Policy'*, satisfied all pre-requisites of convergent validity.

Discriminant Validity

Discriminant validity is the degree to which the measures of different latent variables are unique. Discriminant validity is ensured if a measure does not correlate very highly with other measures from which it is supposed to differ (O'Leary-Kelly and Vokurka, 1998). Discriminant validity is established on the basis of AVE and Maximum Shared Variance (MSV).

Criteria for ensuring discriminant validity are MSV < AVE and ASV < AVE (Hair *et al.*, 2010). Within the present study, MSV and ASV for each of the five individual constructs have been determined. Thus measurement model was found to be majorly valid in terms of discriminant validity as both MSV and ASV of four out of the five individual constructs have been found to be lower than their respective AVE estimates (Table 1). *'Policy'* construct indicated validity concerns with respect to discriminant validity. The discriminant validity statistics for the individual constructs were determined using Microsoft Excel based Validity Concerns Toolkit developed by Prof. Gakingston.

5.2.3 Nomological Validity

Nomological validity refers to ascertaining logical relation between a particular model construct and items on which the same is reflected upon. RSQS model considered for the study has been duly checked for nomological validity in terms of construct-item relatedness.

5.3 Model Fit Estimation – Measurement Model

Upon satisfaction of reliability and validity of individual constructs as well as the overall RSQS measurement model (Fig.2), the study proceeded to determine fitness of the overall measurement model based on model fit indices generated as a part of AMOS output. Model fit is assessed on the basis of CMIN/df, P-value, Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA) and P close. Model fit indices for all the individual constructs were calculated and the results have been indicated in Table 4.

Out of the five constructs forming the part of RSQS (Fig.1), two constructs i.e. *Policy* and *Problem Solving* generated good results with respect to all the specified indices, while the remaining three i.e. *Reliability*, *Physical Aspects* and *Personal Interaction* reflected good results with respect to five out of the seven model fit indices considered, and hence were deemed fit based on the rule of majority. Subsequent to determination of model fit indices for individual constructs the model fit estimates were calculated towards ascertaining fitness of the overall RSQS measurement model comprising of all five constructs. The RSQS measurement model was deemed fit based on acceptable model fit indices (Table 4). Further, the indices of default model were found to have higher convergence towards the saturated model indices compared to the indices of independent model as indicated by AMOS output.

Table 4: Model Fit Indices (RSQS Measurement Model)

Indices	Recommended	Model Fit Indices
GFI	≥ 0.95	0.88
P-value	≥ 0.05	0.00
CFI	≥ 0.95	0.94
CMIN/df	< 3	2.01
AGFI	≥ 0.80	0.85
RMSEA	≤ 0.05	0.05
P close	≥ 0.05	0.05

Source: *AMOS output*

In an attempt to ensure the strategic usability of RSQS a four construct model (Fig.3 & 4) was considered by dropping the *'Policy'* construct which encountered validity concerns in terms of convergent and discriminant validities as a part of the original measurement model. Model fit estimates for the four construct model were found to satisfactory (Table 5) and no validity concerns were encountered for the reduced four construct RSQS model comprising of Reliability, Physical Aspects, Problem Solving and Personal Interaction (Table 6).

Table 5: Model Fit Indices (4 Construct RSQS Measurement Model)

Indices	Recommended Value	Model Fit Indices
GFI	≥ 0.95	0.91
P-value	≥ 0.05	0.00
CFI	≥ 0.95	0.96
CMIN/df	< 3	1.78
AGFI	≥ 0.80	0.88
RMSEA	≤ 0.05	0.05
P close	≥ 0.05	0.52

Source: *AMOS Output*

Table 6: Reliability and Validity Estimates (4 Construct RSQS Measurement Model)

Construct	CR	AVE	MSV	ASV
Problem	0.847	0.650	0.258	0.181
Physical Aspects	0.902	0.607	0.328	0.276
Personal	0.927	0.598	0.328	0.253
Reliability	0.864	0.562	0.259	0.159

Source: *Gakingston Validity Concerns Tool Kit Output*

6. Conclusion, Implications and Future Scope

The measurement of service quality assumes paramount significance in the retail context. Establishment of valid and reliable RSQS will serve as a strategic tool for retailers operating across diverse formats. The present research establishes the reliability and validity of modified four construct RSQS model comprising of 'Reliability', 'Physical Aspects', 'Problem Solving' and 'Personal Interaction'. The validity of '*Policy'* dimension forming the part of original RSQS model couldn't be established within the Indian apparel retail sector.

Managerial Implications: Prevalent retail practices focus on creating a pleasurable shopping experience in anticipation to deliver favorable customer service. Retail managers can be significantly benefited by a reliable and valid RSQS as it will enable them to measure customer's overall perception and feelings towards retail store service quality. It can serve as an instant feedback on retailing service efforts in terms of reliability, physical aspects, problem solving and personal interaction. Expected and actual level of customer responses can be studied. An understanding of customer's experiential responses may help retailers in better management of retail stores and aligning their efforts towards ensuring enhanced overall service quality experience. Retailers can further identify the factors leading to creation of a positive retail customer's experience in terms of service quality.

Scope for Future Research: The present study validates the modified RSQS within organized apparel retail stores in the context of Indian retail environment. Further, respondents for the study comprised of customers of stores having significant presence within the Indian NCR. Generalizations of results on overall retail segment requires more studies on a cross section of sample in different store contexts and regions within India for validation purposes. The influence of moderating variables such as consumer profile, type of store and other situational variables may be assessed by future researches. *'Policy'* as an RSQS dimension bears strategic significance for the retailers as evidenced by past studies. Thus, future studies may try to replicate similar validation framework towards establishing validity of original five factor RSQS model incorporating the *'Policy'* dimension, in the context of progressive Indian organized retail sector.

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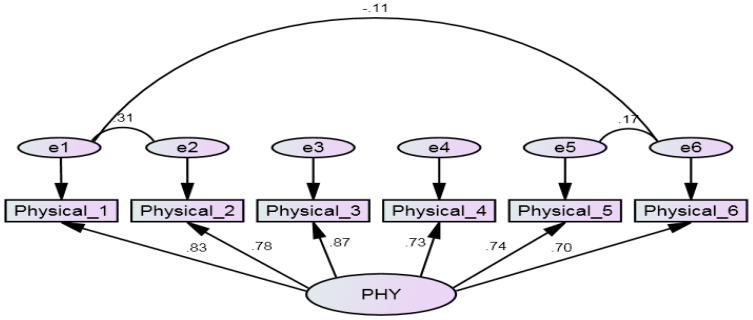
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Appendix: AMOS Measurement Model Diagrams

Fig. 1: Constructs of 5 Factor RSQS Model



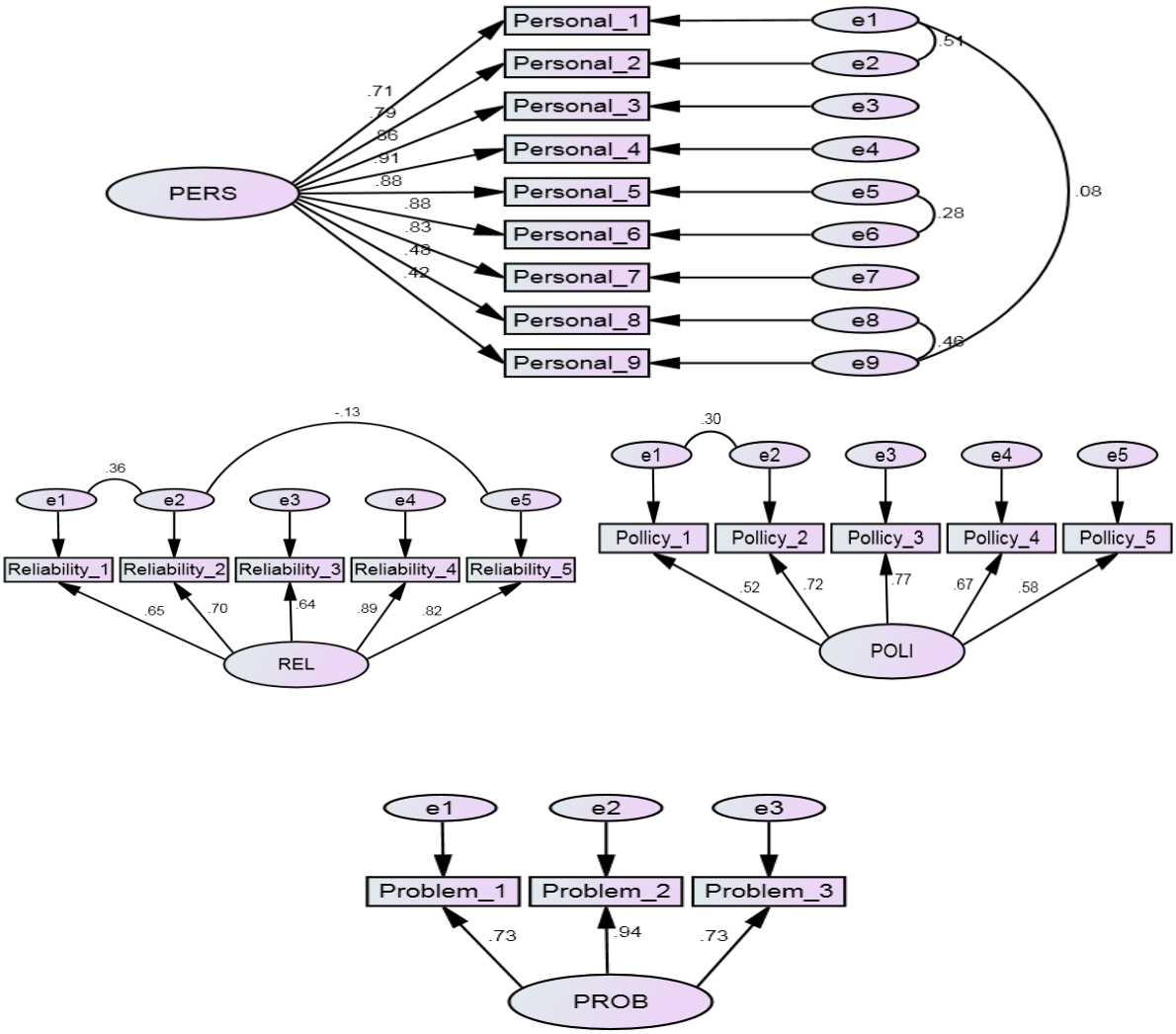


Fig. 2: RSQS Measurement Model (5 Factor)

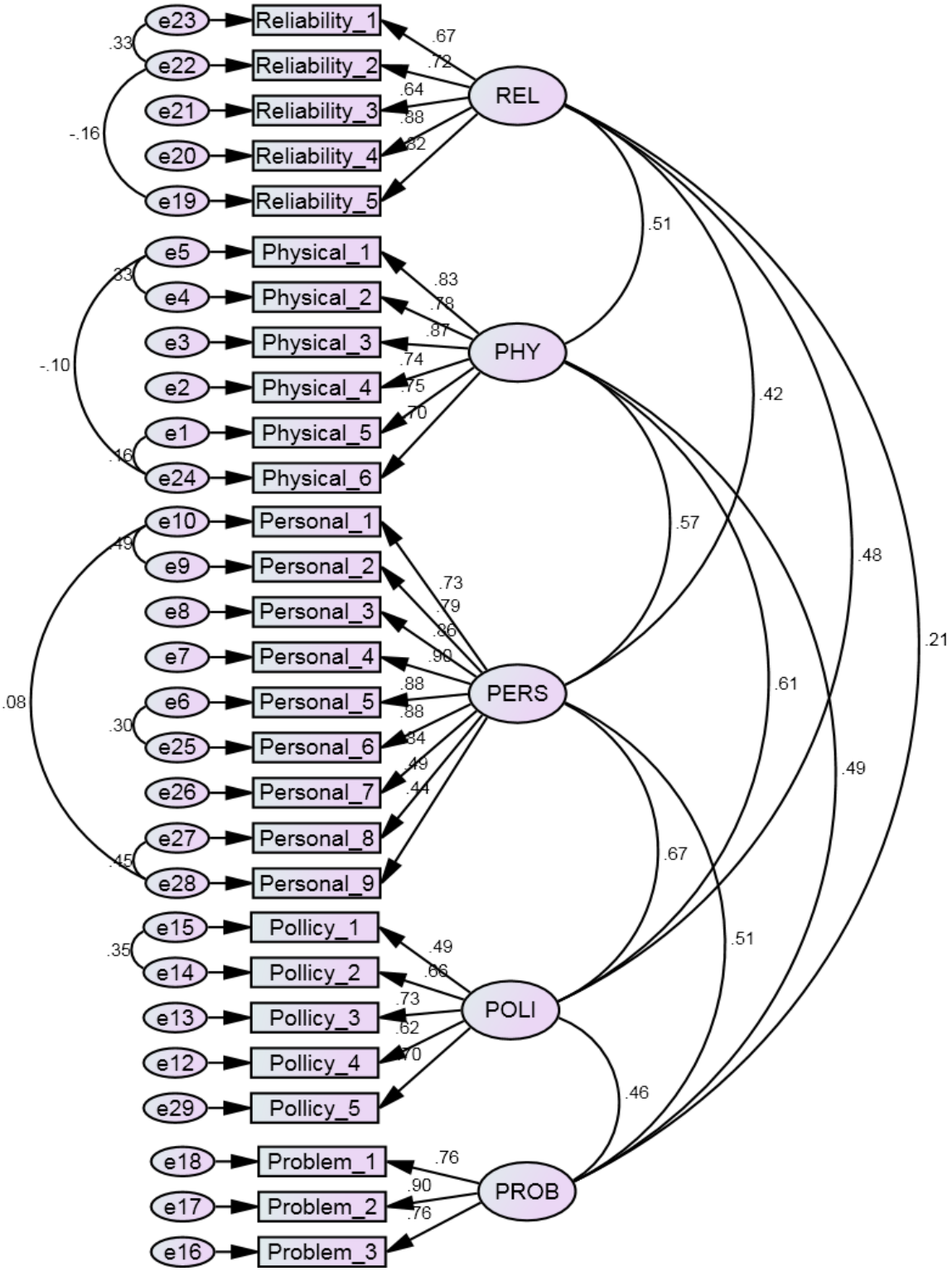


Fig. 3: Constructs of 4 Factor RSQS Model

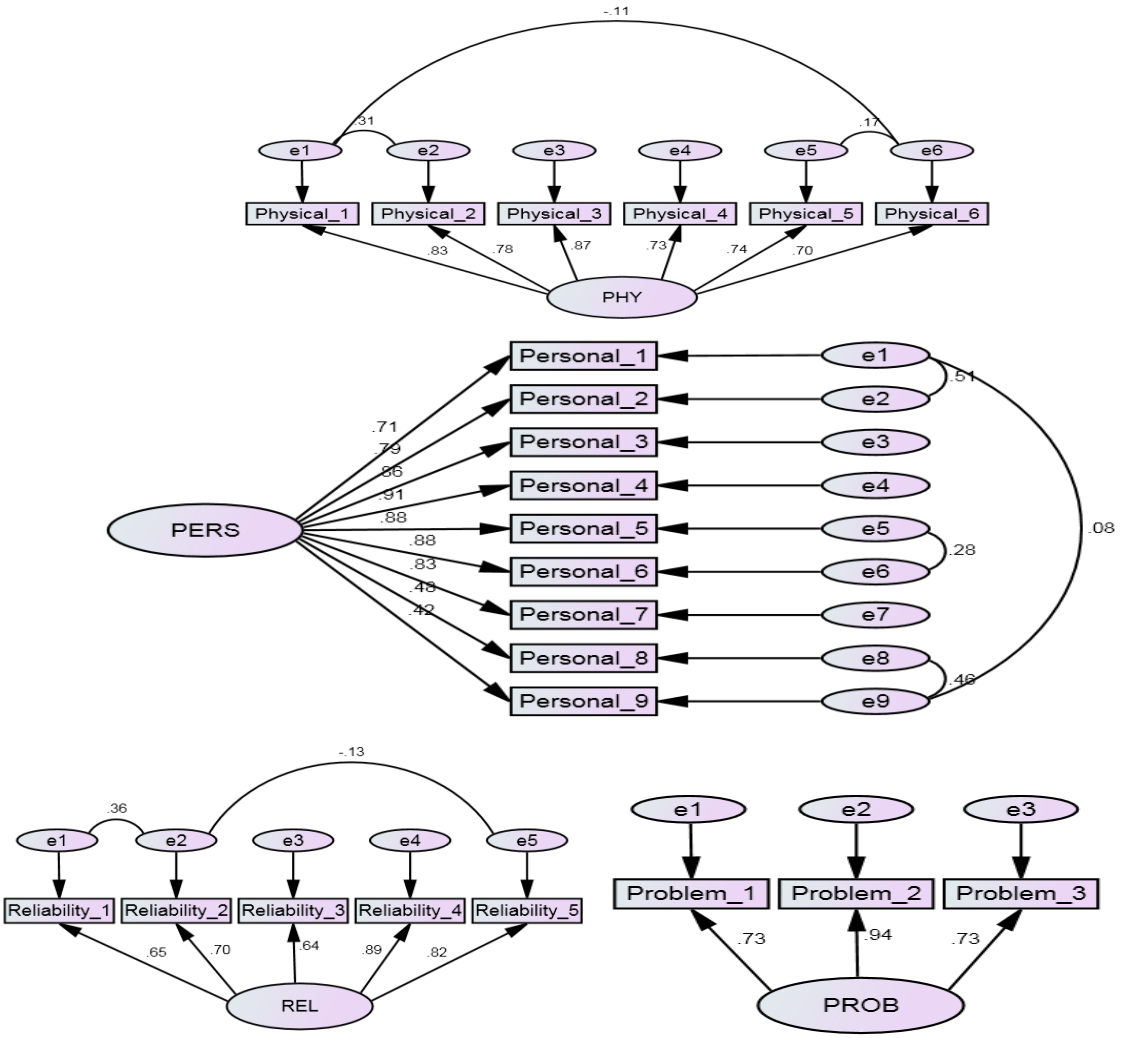

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Fig. 4: RSQS Measurement Model (4 Factor)

