

# **CONSTRUCT VALIDATION OF THE CUSTOMER ORIENTATION (ORGANIZATIONAL CLIMATE) SCALE IN A PUBLIC SECTOR SERVICE ORGANIZATION**

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## **ABSTRACT**

This study examined the factor structure of the 22-item Customer Orientation (Organizational Climate) scale developed by Kelley (1992). The scale was administered in a sample of Australian public sector service organization employees ( $n = 259$ ). Exploratory factor analysis provided evidence that the scale is multidimensional, although a number of items in the 22-item scale cross-loaded on two factors. Removal of eight items resulted in a 14-item two-factor scale with all items loading cleanly on a single factor. The first factor related to aspects of competence which allow an employee to perform at a satisfactory level, while the second factor concerned elements of the environment in which the service is performed. Confirmatory factor analysis supported the two-factor structure. Reliability analyses of the two derived sub-scales indicated very good internal consistency. Convergent validity was high for both factors, but evidence of discriminant validity was not conclusive.

## **INTRODUCTION**

The concept of customer orientation evolved from studies that investigated market orientation, and in some conceptualizations is effectively a subset of market orientation. Market orientation is often considered to consist of three dimensions, customer focus, competitor focus, and capacity to disseminate information (Kohli &

Jaworski, 1990; Narver & Slater, 1990). Customer orientation has been defined as “an employee’s tendency or predisposition to meet customer needs in an on-the-job context” (Brown, Mowen, Donovan, & Licata, 2002, p. p.111). It is often conceptualized as two of the three market orientation dimensions, namely customer focus and the capacity to disseminate information.

A widely used measure of customer orientation is the Selling Orientation customer Orientation (SOCO) scale developed by Saxe & Weitz (1982), or the shorter version of this scale proposed by Thomas, Ryan, and Soutar (2001). Other measures of customer orientation include those developed by Conduit and Mavondo (2001) and Wright, Pearce, and Busbin (1997).

More recently, another related construct, service orientation, has been examined by several scholars. Service orientation has been defined as a dimension of an organization’s climate (Lytle, Hom, & Mokwa, 1998), emanating from employee perceptions of the behaviors that are supported, expected and rewarded, as well as the employees’ perceptions of the practices that actually occur. Lytle, Hom, and Mokwa (1998) argue that service orientation is a multi-dimensional construct consisting of service leadership practices, service encounter practices, service system practices, and human resource management practices.

While the literature provides a distinction between the market orientation and customer orientation constructs, the distinction between customer orientation and service orientation is less clear. Items in scales which purport to measure customer orientation are similar to items in service orientation scales. The instruments developed to measure market and customer orientation clearly show their genesis

in private sector activities, while the service orientation construct and its measures (see for example the SERV\*OR scale developed by Lytle, Hom, and Mokwa (1998) seems to have more general applicability across the private, public and not for profit sectors.

To further compound the lack of clarity in regard to this area of research, the same or similar items have also been used to measure a fourth construct proposed in the literature, namely customer service climate. Climate is generally regarded as a domain specific dimension of an organization's culture (such as safety climate, ethical climate etc). Customer service climate includes factors such as service delivery and service quality, both critical areas of any service based organization. Other researchers consider the appropriate construct to research is customer orientation of service employees (COSE) (Hennig-Thurau, 2004).

Perhaps the only common thread in many studies is the notion that providing good service to customers requires an organizational focus on customers and the capacity to provide employees with appropriate information. The lack of clarity surrounding this area of research however, points to a need to work towards accepted operationalizations of the various constructs, and to further refine and develop parsimonious measurement scales. Studies which examine the dimensionality of existing scales, particularly where this has not been done previously, will also assist in moving towards consensus regarding the constructs involved. In addition, studies which test the dimensionality of scales using public rather than private sector samples may provide new insights regarding customer orientation.

*The Customer Orientation (Organizational Climate) scale*

The 22-item ( $\alpha = .97$ ) Customer Orientation (Organizational Climate) (COOC) scale developed by Kelley (1992) measures the perceptions of individuals about the importance their organization places on aspects of the services it provides. Hennig-Thurau, (2004) considers Kelley's study to be particularly important, as it was one of the first to examine customer orientation in service employees. According to Kelley, the items were developed in line with procedures suggested by Churchill (1979) and Nunnally (1978). A pool of items considered to tap all dimensions of the construct domain was generated by Kelley, based on the definition of the construct, the literature and field interviews. These items were then considered by a panel of expert judges. Items selected by the judges were then examined by a panel of practitioners from the industry in which the data were to be collected. If a judge or practitioner raised an objection about an item it was either reworded or deleted. Kelley relied on item-total correlations to validate his scale, and did not conduct a factor analysis to test the dimensionality or underlying structure. He acknowledged that factor analysis was an alternative way of purifying his scale, but did not appear to recognize the other benefits of exploratory factor analysis. Establishment of the unidimensionality of the scale, or identification of multiple dimensions is of theoretical importance to researchers in the area. It is also of practical importance to managers in service organizations, since it points to aspects of organizational operations which should be scrutinized to determine current levels of performance and the potential for improvement. Kelley's study involved customer contact employees in the financial services sector, but the relevance of the construct to the public sector is equally salient.

While only limited use appears to have been made of the COOC scale, an investigation into its dimensionality is still of value. The scale is included in a number of highly regarded and widely disseminated scale compendia such as the Marketing Scales Handbook, now in its fourth edition (Bruner, Hensel, & James, 2005). To date however, no published studies have examined the scale's factor structure, and this study seeks to address this gap in the literature.

## **METHOD**

### *Participants*

The sample for this study consisted of 259 customer service employees within a large Australian public sector organization, responsible for providing a range of human services to clients. The sample consisted of 27% male and 58% female, with 15% of respondents not specifying their gender. The mean age was approximately 35 years

### *Procedure*

Surveys were administered to potential respondents as part of a larger study. Responses were obtained on a seven point Likert-type scale, from 1 (strongly disagree) to 7 (strongly agree). Employees were encouraged by the management of the organization to complete the survey, and were given time during working hours to do so. Employees were invited to complete the survey on line, via a web page hosted by the researcher's university. As an alternative, employees were offered the option of completing the survey via a hard copy. While most

respondents completed the survey on-line ( $n = 197$ ), some preferred the hard copy option ( $n = 62$ ). An independent groups t-test was performed using the mean of all items to test equivalence across sub-samples. No significant differences were identified between the two data collection methods ( $t=1.01$  (257df),  $p<.05$ ).

## RESULTS

### *Item Analysis*

Missing data for the customer orientation items were minimal, amounting to less than 1% in total. Scores across all items were very high, with a mean of 6.24 and a standard deviation of .80. This indicates that respondents in the sample generally have very strong positive views on the importance of being responsive to customers' needs, a not unexpected result given the nature of their work. The internal consistency of the full scale was very high, with Cronbach's alpha equal to .97.

### *Factor Structure*

Initially, a maximum likelihood factor analysis, with promax rotation was conducted on the 22 items. This analysis yielded two factors with eigenvalues greater than 1, which together accounted for 74.61% of the variance. The first factor accounted for 67.71% of the variance, and the second factor accounted for 6.90% of the variance. A scree plot provided further support for a two-factor structure. Examination of the factor loadings revealed several items which loaded on both factors. These items were deleted one at a time, and the analysis conducted again. Cross loading items from this second analysis were

removed, and the analysis conducted again. This produced a 19-item solution with all items loading cleanly on a single factor, and no items cross loading above .30. The factor loadings for this solution are shown in Table 1.

Table 1:  
*Exploratory Factor Analysis*

	Item	Factor	
		1 Com	2 Env
6	the knowledge of employees is important	<b>1.06</b>	-.16
7	the training of employees is important	<b>1.05</b>	-.16
5	it is important for employees to be well prepared	<b>.88</b>	.05
22	it is important for employees to have up to date equipment to provide service	<b>.80</b>	.04
1	consistent customer service performance is important	<b>.77</b>	.12
2	dependable customer service performance is important	<b>.77</b>	.11
18	the confidentiality of the organization's service is important	<b>.75</b>	.12
13	it is important to tell the customer their personal obligations in respect of the service	<b>.69</b>	.21
12	it is important to use language that the customer can understand	<b>.69</b>	.23
15	employee honesty is important	<b>.67</b>	.19
4	it is important to honor promises to customers	<b>.67</b>	.17
9	it is important to have operating hours that are convenient for customers	-.27	<b>.87</b>
17	the development of customer confidence in the service provided is important	.18	<b>.77</b>
16	a reputation for good customer service is important	.24	<b>.69</b>
20	individual customer attention is important	.26	<b>.66</b>
10	the appearance of employees is important	.09	<b>.61</b>
21	a nice atmosphere for service is important	.22	<b>.59</b>
19	what the customer needs is important	.23	<b>.55</b>
8	convenient locations are important	.23	<b>.49</b>
Eigenvalue		12.87	1.31
% of Variance Explained		67.71	6.90

Items loading on the first factor were related to employee knowledge, training and preparation, and the reliability and integrity of the service. These items appeared to relate to employee competencies and attributes that a customer might expect of an organization and its employees. The second factor contained items that related to the organizational environment or the context in which the customer and employee interact. These items included such things as reputation, the appearance of employees, and the provision of a “nice” atmosphere.

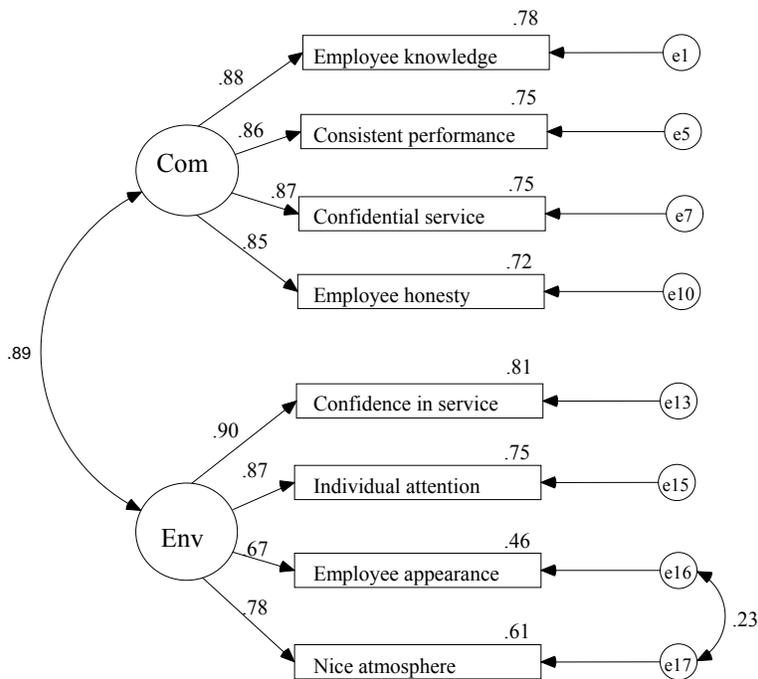
All items loaded on their respective factors at .49 or higher, with two items loading above 1.00. Researchers are sometimes concerned by factor loadings greater than one in exploratory factor analysis, but their concern is often based on a fundamental misunderstanding of factor rotation. Where factors have been rotated orthogonally, the factor loadings are correlations, and cannot be greater than one, but where the factors have been rotated obliquely, as in Promax rotation, the factor loadings are regression coefficients, and can be greater than one. Standardized coefficients greater than one do not imply a problem with the data, although they may be indicative of high levels of multicollinearity in the data (Babakus, Ferguson, & Joreskog, 1987). Multicollinearity is the extent to which a variable can be explained by other variables in the analysis. In this study, respondents obviously saw an affinity between employee training and employee knowledge, a not unreasonable conclusion to draw.

Internal consistency coefficients were calculated for the two empirically derived subscales. Cronbach’s alpha coefficients were extremely high at .97 for the first subscale and .93 for the second subscale.

### Confirmatory Factor Analysis

The empirically derived two-factor solution was tested with confirmatory factor analysis using Amos Version 7 (Arbuckle & Wothke, 1999). Items were hypothesized to load on latent variables using the structure identified in the exploratory factor analysis. The path diagram and parameter loadings are shown in Figure 1.

Figure 1:  
Confirmatory Factor Analysis



The overall fit of the model was evaluated against a

number of recommended fit statistics and fit indices (Hair, Black, Babin, Anderson, & Tatham, 2006; Marsh, Balla, & Hau, 1996). The chi-squared statistic ( $\chi^2$ ), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA) were used to assess the overall goodness of fit of the model. Non-significant chi-squared values, in combination with CFI and TLI values of .95 and above, and RMSEA values less than .06 are needed to conclude there is a relatively good fit between an hypothesized model and observed data (Hu & Bentler, 1999), although Browne and Cudeck (1993) and Hair, Black, Babin, Anderson, and Tatham (2006) suggest that RMSEA values less than .08 and fit indices above .90 indicate acceptable levels of fit.

The initial model provided an unacceptable fit to the data ( $\chi^2=741.85$  (150df),  $p<0.01$ , CFI=.89, TLI=.88, RMSEA=.12). Model fit was improved by deleting items or linking cross loading items, following an examination of the modification indices. The eight-item final model provided a satisfactory fit to the data ( $\chi^2=25.37$ (18df),  $p>0.05$ , CFI=.99, TLI=.99, RMSEA=.04). Hair, Black, Babin, Anderson, and Tatham (2006) recommends that in a model with up to 12 variables a CFI and TLI=.97 or higher, and RMSEA value  $<.08$  indicate acceptable model fit. The multicollinearity issue which emerged from the exploratory factor analysis was resolved, since the final model included employee knowledge but not employee training.

Convergent validity of each factor was then tested by examining the standardized factor loadings. Hair, Black, Babin, Anderson, and Tatham (2006) suggest that factor loadings should be .50 or higher, and ideally .70 or higher. Loadings for the "Competency" factor were .85, .86, .87, and .88, suggesting good convergent validity. Loadings for the "Environment" factor were .67, .78, .87, and .90, also

suggesting good convergent validity. Discriminant validity was tested by comparing the average variance extracted percentage for the two constructs with the estimated squared correlation between the two constructs (Fornell & Larcker, 1981). If the variance extracted is greater than the squared correlation, this provides good evidence of discriminant validity (Hair, Black, Babin, Anderson, & Tatham, 2006). Average variance extracted for “Competency” was .75 and for “Environment” was .66. The squared correlation estimate was .80. Based on this result the test for discriminant validity was not satisfied.

An alternative, though less robust, method of testing for discriminant validity is to compare a two factor model with a single factor model. Where a two factor model provides a better fit to the data than a single factor model, evidence supporting discriminant validity is present (Hair, Black, Babin, Anderson, & Tatham, 2006). To this end, a single factor model was tested using CFA. The initial single factor model provided an unacceptable fit to the data ( $\chi^2=116.98$  (20df),  $p<0.01$ , CFI=.8994, TLI=.92, RMSEA=.124). Model fit was improved by linking cross loading items, following an examination of the modification indices. The final model still provided an unacceptable fit to the data after all modification index improvement options were exhausted ( $\chi^2=66.35$ (18df),  $p<0.01$ , CFI=.97, TLI=.95, RMSEA=.10). Based on this analysis it can be reasonably concluded that discriminant validity is likely to exist for the two factors.

## DISCUSSION

Some conclusions about the psychometric properties of the COOC can be drawn from this study. The “eigenvalues greater than one” test, in conjunction with the

scree plot, suggests that the scale is multidimensional, an important theoretical aspect of the scale which was not investigated by Kelley and which has not been reported elsewhere in the literature. The clean loadings on each factor in the exploratory factor analysis, and the internal consistency estimates suggest reliable sub-scales. The confirmatory factor analysis indicated that a two factor model provided a good fit for the data, and the high factor weights in the path diagram indicate that the items constitute good sub-scales. Convergent validity of the items comprising each factor was high. While there remain some questions about the discriminant validity of the two factors, the two factor model was a superior fit to the data than the single factor model, suggesting adequate discriminant validity.

The results of the study suggest that the items in Kelley's scale address customer-related employee competencies and the environment in which those competencies are deployed to deliver value to customers. The two factors are different from, but not inconsistent with the findings of many previous studies in the field of market orientation, customer orientation and service orientation. In many earlier studies a focus on customers and the capacity to disseminate appropriate information have been identified as the basis of customer focused organizational climates. There are substantial parallels between capacity to disseminate information to customers and employee competencies, and again between a customer focus and providing an environment which appeals to customers. It is possible that the makeup of the sample may explain to some extent the differences in emphasis in the findings of this study in comparison to previous ones. Much of the previous research has been conducted in private sector organizations, where a selling or value-for-money dynamic is present. In the sample employed in this

study that dynamic is quite different, since respondents were not involved in commerce but in service provision to a customer group where interactions were governed by legislation and policy rather than the profit motive. Whether the findings in this study point to a different conceptualization of customer climate, or simply to differences between public and private sectors is not clear, and requires further research.

The findings of this study suggest some practical areas which managers should consider in their attempts to improve customer service. The capacity to disseminate information is not simply about providing product or service information to customer contact employees, and subsequently to customers. Employees need to deploy and display a range of information related competencies including confidentiality and honesty to customers. This may mean ensuring that the products and services they recommend are the ones that best meet customer needs, and that information about the customer obtained during the interaction is treated in confidence.

## **CONCLUSION**

The study examined the psychometric properties of the COOC scale proposed by (Kelley, 1992). The results of this study suggest that customer orientated climate as measured by this scale consists of two factors. The first factor consists of competence elements which allow an employee to perform at a satisfactory level. The second factor is made up of elements that impact on the environment in which the service is performed.

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