

**OPERATIONALISATION OF THE ORGANISATIONAL  
ORIENTATION AND CULTURE CONSTRUCT IN SERVICE  
VALUE NETWORKS**

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## OPERATIONALISATION OF THE ORGANISATIONAL ORIENTATION AND CULTURE CONSTRUCT IN SERVICE VALUE NETWORKS

### ABSTRACT:

*Today's service organisations increasingly operate as part of a larger service system or Service Value Network (SVN). This requires organisations to develop a work culture which encourages collaboration, communication, creativity, risk taking and empowerment among their members, and motivates employees to question fundamental beliefs and work patterns. This paper develops the Organisational Orientation and Culture (OOC)-construct for building a sustainable SVN, and comprises four key cultures and orientations from the literature: entrepreneurial orientation, collaborative culture, learning orientation, and market/customer orientation. Using empirical data from a large Australian telecommunications SVN, and through the use of Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) (using a holdout sample), this paper demonstrates that Collaborative Culture, Entrepreneurial Orientation, and a newly merged factor Freedom of Speech Culture emerge as the predominant underlying factors of culture for contemporary collaborative service organisations.*

**Keywords:** *service value network, collaborative culture, entrepreneurial orientation, learning orientation, and market/customer orientation, freedom of speech culture*

**Conference Theme:** *Leadership and Governance OR Technology, Innovation and Supply Chain Management OR Organisational Change OR Strategic Management*

### INTRODUCTION

Nowadays, many service organisations create new service offerings and service concepts through collaborative arrangements and partnerships (Agarwal and Selen 2009; Hamilton and Selen 2004; Maitland Bauer & Westerveld 2002; Olla and Patel 2002; Stuart and Tax 2004) in a Service Value Network (SVN) context. A SVN was recently described as: “*a network of value chains, which vibrates its essence from the combined core competencies of the stakeholders in the chain, mobilizes the creation and reinvention of value of its assets, requires strategic focus and revives roles and responsibilities amongst different stakeholders. Through the use of relationship, technology, knowledge and process realignment and management, a SVN connects to the customer via the channel of choice, heightens the transformation of the nature, content, context and scope of the service offerings, opens up new market opportunities, keeps the social infrastructure intact and secures competitive advantage*”(Agarwal and Selen 2005). Conceptually, a service value network is all about building and fostering dynamic capabilities to yield a service innovation or “elevated service

offering”, one that can only result because of collaborative efforts of the service network partners (Agarwal and Selen 2009). In such environments, competitive advantage no longer solely rests on variables like efficiency, quality, customer responsiveness and speed, but increasingly more on the ability to innovate, often with speed, with value-added attributes, and with memorable experiences for the customer. This makes innovation, flexibility, coordination, integration, and speed the new success factors of today’s service value networks (Walters and Rainbird 2007; Agarwal and Selen 2009, 2010). Furthermore, it is well known that leadership, management and culture play a strategic role in various ways to create innovation capability and sustainable competitive advantage in a high performing workplace. According to Kotter (2001) management is about coping with complexity, whereas leadership is about coping with change. As such, leadership influences people’s behaviours whereas management focuses on management of analysis, control and scheduling of resources. Thus, culture is intimately associated with leadership in shaping organisational practices and desired values and behaviours; as well as acts as a control mechanism, encouraging certain behaviours and discouraging others, and hence is a culmination of espoused values and beliefs adopted by the people within a firm (Free, Macintosh and Stein 2007; Hofstede 2003; House, Hanges, Javidan & Dorfman 2004; Kotter 2001).

As such, culture has a significant role to play in change management, and if organisations are to introduce new strategies and practices in a planned way, there has to be simultaneous change in culture (Schneider, Arthur and Richard 1996; Hupfield 1997). Given the potential role of culture in the success or failure of organisational change, the question to explore the nature of culture in emerging collaborating service organisations arises.

A definition of culture is offered, and in the context of a SVN this paper operationalises the construct of Organisational Orientation and Culture (OOC) for building a sustainable Service Value Network (SVN). This paper is organised as follows: First, the theoretical background for the research hypothesis is elaborated on, yielding a definition of the new Organisational Orientation and Culture (OOC)-construct as it relates to a SVN. This is followed by the research methodology, analysis, and results in operationalising the OOC-construct using

empirical data from an Australian telecommunications SVN. Finally, the paper concludes with main conclusions, limitations of the study, and suggestions for future research.

### **THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES**

Schien (1985) defines organisational culture as: *“a model of basic assumptions and beliefs that are shared by members of an organisation, that operate unconsciously, and that define an organisation’s view of itself and its environment”*. According to Barney (1986), organisational culture serves as a source of sustained competitive advantage, and those who have a cooperative culture supporting innovation, should also understand that it is the culture that gives them a competitive advantage, and develops and nurtures those cultural attributes. In this context, the literature reports a wide range of dimensions of organisational culture which are being considered next.

While no single model of culture has widespread acceptance, the Competing Values Framework (Quinn and Rohrbaugh 1981) defines four (4) primary cultural orientations focused upon control, results, people and change. There are logical connections between the four orientations of culture and organisational outcomes of innovation, productivity, engagement and fairness. Yet, large scale empirical research on the impact of organisational culture on firm performance is sparse, and what exists is primarily qualitative and anecdotal rather than quantitative. Among the empirically based studies, a recent study of 226 manufacturing firms deploying the Competing value framework (Xingxing, Robbins and Fredendall 2010) found that different aspects of quality management are associated with different cultural orientations, showing a people orientation to be most closely related with quality supplier relationships, whereas a results orientation to be strongly associated with quality of customer relationships. Another study of 50 Taiwanese electronics and telecommunications firms (Jung, Wu and Chow 2008) found that cultures with higher change-, people- and results-orientation, and with lower control orientation, are all associated with innovation and facilitate the effect of transformational leadership. Other studies, have also examined and debated the extent to which these cultural values and practices are common across employees (cultural strength); consistency of purpose across values, strategy and

practices (cultural fit); and the ability to change and adapt over time (cultural adaptation). Furthermore, some authors have argued that cultures that help organisations help anticipate and adapt to environmental change will demonstrate high performance over the long-term (Collins 2009; Collins and Porras 1994; Kotter and Heskett 1992).

Previous research on the relationship of organisational strategy, structure and innovations has assumed one organisational logic application at a time. Atuahene-Gima and Ko (2001) conducted an empirical study engaging marketing and entrepreneurial orientation, demonstrating that the combined effects result in a superior organisational logic, namely entrepreneurial marketing, which is conducive to product innovation. In addition, an organisation's culture creates necessary behaviours for creating superior value for buyers, and thus performance (Narver and Slater 1990). Extant literature suggests that collaboration leads to dynamic capability building (Agarwal and Selen 2009), and that collective application of knowledge is more likely to lead to significant improvement in services than individual application of knowledge. Further, external sourcing of knowledge from customers and competitors is more conducive to new service introductions than incremental learning on the job (Teo and Wang 2006).

Taking note of earlier findings, different cultures associate with different outcomes and contexts. In relation to a service value network environment, it seems logical to have a complex organisational orientation, one which inculcates a collaborative culture, a learning environment, and a more proactive and entrepreneurial management, in conjunction with market orientation, which is in search for greater innovation. The confluence of rapid technological changes, changing demands of customers, time-to-market pressures and globalisation, have created external environments which are more and more characterised by market, technological, and customer and supplier uncertainties. Next, we discuss each of the organisational cultural orientations that make up our newly proposed construct "Organisational Orientation and Culture (OOC)".

A first orientation is the Market Orientation, defined by Kohli and Jaworski (1990) as: "*a firm's orientation toward the promotion and support for the collection, dissemination, and*

*responsiveness to market intelligence to serve customer needs*". This orientation poses a reactive approach to customer needs and current competitor actions (Kohli and Jaworski 1990), but does lead to incremental innovations (Christensen and Bower 1996). However, customer-lead orientations impose risks of being technologically driven and hence, there is a high risk of market failure (Olleros 1986).

In the context of a collaborative service value network setting, one can, in addition to the Market Orientation, consider three additional characteristics: *Entrepreneurial Orientation, Collaborative Culture, and Learning Orientation*.

*Entrepreneurial orientation* is a corollary concept that emerged primarily from the strategic management literature, one which spurs business expansion, technological progress and wealth creation, working in favour of both start-up ventures and existing firms (Lumpkin and Dess 1996; Covin and Slevin 1991). In this context, Lumpkin and Dess (1996) linked entrepreneurial orientation with performance and defined it as: "...the processes, practices, and decision-making activities that lead to the development and delivery of new innovative services that can differentiate an organisation from others in its market." Further, Lumpkin and Dess (2001) examined the moderating effects of two dimensions of entrepreneurial orientation on performance in environments in which firms exhibited these approaches to strategy making; other dimensions are yet to be verified. Recently, Jambulingam, Kathuria and Doucette (2005), utilised concepts from resource-advantage theory to primarily operationalise the entrepreneurial construct for the retail pharmacy industry demonstrating the utilisation of intangible resources to build long-term strategies, as well a sustainable competitive advantage leading to superior performance. As such, in our Service Value Network context, dimensions of entrepreneurial orientation include a firm's ability and willingness to adapt to innovativeness, pro-activeness, autonomy, competitiveness aggressiveness, risk taking and motivation. McGrath and MacMillan (2000) reported that, when market, competitors and technologies change seemingly from day to day, the task for managers is to confront the uncertainty and make it an "ally" by inculcating the five behaviours of an entrepreneur: energetically seeking the opportunities, pursuing them with

discipline, targeting the best ones while avoiding the others, valuing effective execution, and involving many people when realising an opportunity. Furthermore, Atuahene-Gima and Ko (2001) demonstrated that entrepreneurial and market orientations can be integrated by understanding the entrepreneurial marketing that drives innovation in firms.

Taking into account the considerations from extant literature (De Long and Fahey 2000; Gupta and Vajic 2000; Nevis, Dibella and Gould 1995) Lopez, Montes Peon and Vazquez Ordas (2004) defined *Collaborative Culture* as: “*a set of main organisational values that encourage organisational learning comprising of the following eight attributes namely, Empowerment, Respect and Diversity Encouragement, Teamwork, Trust and respect of individuals, Communication and dialogue, Ambiguity Tolerance, Risk Assumption, and Long term vision and advance management of the change*”.

Lopez et al. (2004) furthermore provided empirical evidence for the hypothesis that collaborative culture influences organisational learning, which in turn influences organisational performance. Due to suppliers' face-to-face encounters with customers involved in the service delivery of services, social and psychological behaviours may have a substantial influence on service outcomes. A Collaborative Culture instils amongst employees and customers a reciprocal attitude of trust, collaboration, openness and communication, leading to greater customer satisfaction and organisational performance (De Long and Fahey 2000; Lopez et al. 2004).

In today's competitive environment, an organisation's ability to learn faster than its competitors is a significant source of competitive advantage. It has been empirically verified that there is a positive relationship between the stocks of learning at all levels of an organisation and business performance (Bontis and Fitz-Enz 2002; Crossan and Hulland 2001). Thus, an organisation that can “*assimilate new ideas and transfer those ideas into action faster than a competitor*” ought to be successful (Ulrich, Von Glin and Jick 1993). Hence, *Learning Orientation* is the fourth dimension of organisational culture that needs to be

promoted and inculcated as part of organisational strategy and inherent cultural values within a SVN.

In the context of value creation, we believe that a culture that is collaborative, customer and learning oriented, and promotes entrepreneurship, is the right type of culture to address the needs of today's and tomorrow's service industries. As such, we postulate the *Organisational Orientation and Culture* construct as a multi-dimensional culture, defined along the lines of the definition given by Schien (1985) and modified for a SVN environment as:

*“an organisational climate which is a model of basic assumptions and beliefs that are shared by members of the SVN, that operates unconsciously, and defines a unique existence of itself and its operating environment. The values and trains of thoughts so established inculcate and promote a value creation system, one which is social, agile, entrepreneurial, and one which fosters an environment of learning and collaboration”.*

This organisational climate cultivates the seeds for the appropriate development of processes, practices, and decision-making activities that leads to the delivery of Elevated Service Offerings (ESO) to its customers – the notion of innovation in services as described in Agarwal and Selen (2005). From our literature review, we postulate the hypothesis that the OOC-construct is composed of four sub-attributes namely, *Collaborative Culture* (Lopez et al. 2004), *Entrepreneurial Orientation* (Jambulingam et al. 2005), *Learning Orientation* and *Market Orientation* (Kohli and Jaworski 1990). As such our research question states:

*H<sub>1</sub>: In a Service Value Network (SVN), the Organisational Orientation and Culture (OOC) construct is a multi-dimensional construct made up of 4 different cultures namely, Collaborative Culture, Entrepreneurial Orientation, Learning Orientation, and Market Orientation.*



The combined impact of this four-dimensional organisational cultural orientation construct will enable organisations in a SVN to anticipate change, be flexible and adapt as required, encourage communication among all members of the organisation, decrease managerial hierarchical barriers, commit themselves to innovative initiatives, and assume the new values and philosophies throughout the SVN.

## **RESEARCH METHODOLOGY, ANALYSIS AND RESULTS**

### **Data Collection**

Based on relevant management literature described earlier, the theoretical framework for OOC was proposed and a preliminary survey questionnaire was designed. The survey instrument included items from previous empirical studies which defined different constructs, namely Collaborative Culture, Entrepreneurial Orientation, Learning Orientation, and Market Orientation; as well as a number of constructs that were part of a larger service value network framework research study, and beyond the scope of this research framework.

After appropriate pre-testing of the pilot survey, the main round online survey was circulated to 1717 individuals across the Telstra organisation, a large Australian telecom, and its partnering organisations, yielding 380 valid responses (response rate of 22.13%). Out of these, approximately 31% responses were submitted by the partnering organisation, 22% by the customer organisations, and the remainder 47% by the parent telecommunications organisation. The demographic information of the responses is listed in Table 1 below.

### **Insert Table 1**

The level of experience of the respondents is summarized in Table 2.

### **Insert Table 2**

There were a total of 459 individuals who responded to either the pilot (n=79) or the main round survey (n=380). Data was collected across a wide range of variables, and records with greater than 25% data entries missing were deleted. For the remaining missing values, missing value analysis using the expectation maximisation technique (Little & Rubin, 1987;

Graham et al., 1996) was conducted. This resulted in a fully populated combined data set with 449 samples. Two separate data sets were used in the analysis where the entire sample was equally split randomly (Data set 1 and 2 (DS1 and DS2), respectively), allowing for Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) involving one-factor congeneric model to validate the construct dimensions.

### **Research Methodology**

Appropriate tests were conducted for non-response bias and outliers; and normality assumptions were checked. The reliability, unidimensionality, and validity (content-, convergent-, and discriminant-) of the construct was verified and demonstrated using data set 1. Data set 2 was subsequently used in a CFA analysis using to validate the four postulated construct dimensions. Congeneric modeling assumes that all the items in a scale contribute to different amounts to the scale, and that the items contribute differing amounts of error to the scale itself. Thus, in this model, the paths from all items on a scale are pointed towards a latent variable, which then represents the hypothesised scale. Items with low loadings, and low or abnormal contributions were noted for possible elimination during the scale refinement process. The model fit statistics for each of the scales used in the CFA components of the analyses are based on the definitions cited in Garson (1998) and Kline (2005), respectively. Gerbing and Anderson (1988) argued that CFA provides a stricter assessment of unidimensionality than EFA and Item-to-Total Correlations. The one-factor congeneric measurement model in the end examines if the scale is really measuring the construct that it should be measuring (Holmes-Smith, Coote and Cunningham 2005).

### **OPERATIONALIZING THE OOC CONSTRUCT**

Based on earlier literature, the following scales were used to operationalise OOC: We used the scales developed by Liu, Luo and Shi (2002) and Smart and Conant (1994) to measure Entrepreneurial Orientation. While the scale initially had 6 factors, we only retained 5 items as one of the items was identical to the Customer Orientation scale. For Customer Orientation, we adopted 4 out of the 10 original items as developed by Liu et al. (2002) and Deshpande and Farley (1998) In addition, we added a new item more pertinent to the front-

line employees knowledge base; For Learning Orientation ; we used a subset of 9 items out of the 11 original item-scale as developed by Sinkula, Baker and Noordewier (1997), and Liu et al. (2002) to maintain distinctiveness with other sub-scales. For Collaborative Culture, 6 out of the 8 items as developed by Lopez et al. (2004) were retained.

We followed the two-step method used in Narasimhan and Jayaram (1998) to test construct reliability, employing EFA to ensure unidimensionality of the scales, followed by Cronbach's alpha for assessing construct reliability. In the first stage, EFA using Maximum Likelihood extraction with oblique rotation with Kaiser normalisation was used to reduce the large set of items into a couple of bundled underlying variables, and upon executing EFA for the OOC scale, we extracted three factors termed as Collaborative Culture, Entrepreneurial orientation and Freedom of Speech culture as shown in Table 3.

### **Insert Table 3**

Table 3 depicts all the items which loaded greater than the cut-off value of 0.3 (Hair, Anderson, Tatham and Black 1998; Cunningham, Holmes-Smith and Coote 2006). Examining the four constructs of OOC in one multi-factor orientation presents interesting findings. A new cultural factor seems to emerge from our initial EFA analysis, which gives every participant a right to question and the freedom of speech, and one which gives more ability to innovate in a congenial and social environment. Based on the items used from the literature, we would have expected two separate factors, namely Customer Orientation and Learning Orientation. As such, the new Freedom of Speech Culture dimension that emerged is an interesting finding as it relates to a SVN.

Subsequently, we examined the measurement model for OOC using CFA to test the viability of *priori* structures, which were earlier identified using EFA. In this instance, data set 2 (n=224) is used to examine and validate the factor structure. The CFA stage confirmed significant loadings for the three underlying factors being collaborative culture, entrepreneurial orientation and freedom of speech culture. A measurement model for each of the three factors was developed to examine the extent to which the observed variables were assessing the latent variable in terms of reliability and validity, wherein the relationships

between the observed variables and the latent variables were described by factor loadings, and convergent validity is reflected in the magnitude of the factor loadings. According to O’Leary-Kelly and Vokurka (1998), CFA is used in our study to ascertain convergent and discriminant validity. In the model, each item is linked to its corresponding construct and the covariances among those constructs are freely estimated. A construct with either loadings of indicators of at least 0.5, a significant  $t$  value ( $t > 2.0$ ), or both, is considered to be convergent valid (Fornell & Larcker, 1981). A one-factor congeneric model using Maximum Likelihood CFAs was utilised in the steps towards scale validation wherein each of the three scales were found to have a very good fit to the model as shown in Table 4. Items dropped during CFA are not reported here, and scales comprising of final items, their factor loadings along with the model fit summary, are reported in Table 4.

#### **Insert Table 4**

Further, Table 5 lists the calculated Cronbach alpha value for the scales after the completion of internal consistency tests and EFA, followed by Cronbach alpha values after the measurement instrument purification process in CFA. The Cronbach alpha coefficient should be greater than 0.7 for the scale to be acceptable (Nunnally and Bernstein, 1967), and greater than 0.6 in the case of new constructs.

#### **Insert Table 5**

Upon conducting a further literature research, it was identified that the Freedom of Speech construct has already been operationalised (Haskins 1996) and has been defined as:

*“an organisation’s ability to free and responsible speech, one which vigorously encourages and promotes the most productive solution for preparing organisational members to meet the challenges of the next century”* (Haskins 1996).

Our empirical confirmation of Freedom of Speech Culture is consistent with the concepts discussed in the context of value networks by Walters and Rainbird (2006) namely – entrepreneurial, collaborative culture and a culture that motivates employees to communicate

and share freely, and question fundamental beliefs, practices and work patterns. As such, the OOC construct in a SVN framework was operationalised as a single higher order construct with three sub-constructs, namely Collaborative Culture, Entrepreneurial Orientation, and Freedom of Speech Culture.

### **MAIN CONCLUSIONS AND AREAS FOR FUTURE RESEARCH**

From extant literature, it is evident that different cultures associate with different outcomes and contexts, and that combined cultures possibly have greater impacts (this part of the study is beyond the scope of this paper). As such, in our context of a SVN, we postulated a compendium of dominant cultural orientations that encourage risk taking, collaboration, innovation, initiative, problem solving, and problem identification, whilst simultaneously being people oriented, customer and employee focussed, and centered around customer and learning needs, values and practices. Our research makes three key contributions. Firstly, our research identifies the three components of the OOC construct in a SVN setting, being made up of a Collaborative Culture, Entrepreneurial Orientation and a Freedom of Speech Culture. Secondly, our research empirically validates the notion that different cultures associate with different contexts, and in our context of a SVN comprises of 3 different set of cultures. Finally, this research first identifies a newly merged factor designated as Freedom of Speech Culture, which was not expected at first. It seems that Learning Orientation and Customer Orientation overlapped with Entrepreneurial Orientation and with the Collaborative Culture construct; the latter two emerged on their own, while the former two converged into one construct. This was further validated using a holdout sample and CFA and one-factor congeneric modeling. This finding, while not postulated at first, eventually did confirm earlier work in value networks. As such, a similar cultural dimension can be found in service value networks, as empirically validated by the telecom SVN.

In summary, the organisational culture for collaborating service organisations in a SVN seems to call for a culture supported by an entrepreneurial orientation, collaboration, and one that motivates employees to communicate and share freely, and question fundamental beliefs, practices and work patterns to help achieve a company's full potential. Among these different

organisational orientations, the eigen values from our analysis infer Collaborative Culture to be the predominant factor underlying the OOC construct. As such, it is first and foremost of key importance to create a collaborative culture in a SVN setting for creating elevated service offerings for customers.

This study also has its limitations. The first limitation is related to the research context. The qualitative and empirical data analysis was undertaken with data collected from a single large telecommunications service provider organisation, and its partnering organisations. Future research may seek to collect data from the entire telecommunications industry sector and their partnering organisations, across other service sectors, or even any other organisation where collaboration is pivotal to their success. Furthermore, all factors combined explained close to 60% of the variance, meaning that other salient factors may underpin the Organisational Orientation and Culture Construct, which may be addressed in future research.

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**Table 1: SURVEY POPULATION**

| <i>Characteristics</i>             | <i>Data Set 1 (n=225)</i> |                | <i>Data set 2 (n=224)</i> |                |
|------------------------------------|---------------------------|----------------|---------------------------|----------------|
|                                    | Count                     | Percentage (%) | Count                     | Percentage (%) |
| <b>Employee Organisation</b>       |                           |                |                           |                |
| Parent                             | 101                       | 44.88          | 110                       | 49.1           |
| Parent Partner                     | 55                        | 24.44          | 42                        | 18.75          |
| Parent Supplier                    | 21                        | 9.33           | 13                        | 5.5            |
| Parent Customer                    | 45                        | 20.0           | 54                        | 24.1           |
| Intermediary                       | 0                         | 0.00           | 0                         | 0.0            |
| Other                              | 3                         | 1.33           | 6                         | 2.6            |
| <b>Rank in organisation</b>        |                           |                |                           |                |
| Staff member                       | 64                        | 28.44          | 74                        | 33.03          |
| Supervisor/Team Leader             | 14                        | 6.22           | 12                        | 5.35           |
| Manager                            | 95                        | 42.2           | 80                        | 35.71          |
| General Manager, Managing Director | 38                        | 16.8           | 49                        | 21.87          |
|                                    | 4                         | 1.77           | 3                         | 1.33           |
| Group Managing Director, COO, CEO  | 10                        | 4.44           | 6                         | 2.66           |
| Other                              |                           |                |                           |                |

**Table 2: TENURE DEMOGRAPHICS OF SURVEY RESPONDENTS**

| <b>Number and % of Survey respondents in data set (DS)</b> | <i>&lt; 1 yr</i> | <i>1 - 2 yrs</i> | <i>2 - 3 yrs</i> | <i>3 - 4 yrs</i> | <i>4 - 5 yrs</i> | <i>&gt; 5 yrs</i> |
|--|------------------|------------------|------------------|------------------|------------------|-------------------|
| DS1  | 42               | 21               | 30               | 15               | 12               | 105               |
| % DS1  | 18.7             | 9.3              | 13.3             | 6.7              | 5.3              | 46.7              |
| DS2  | 37               | 28               | 28               | 20               | 12               | 99                |
| % DS2  | 16.5             | 12.5             | 12.5             | 8.9              | 5.4              | 44.2              |

**Table 3: FACTOR PATTERN COEFFICIENTS FOR THE OOC SCALE**

| <i>Items<sup>a</sup></i>   | <i>Collaborative Culture (1)</i> | <i>Entrepreneurial Orientation (2)</i> | <i>Freedom of Speech Culture (3)</i> |
|--|----------------------------------|--|--------------------------------------|
| Everybody's opinions and contributions are respected and preserved   | <b>0.886</b>                     | 0.023                                  | -0.122                               |
| Collaboration and co-operation is encouraged   | <b>0.707</b>                     | 0.031                                  | 0.029                                |
| Problems are discussed openly to avoid fault finding   | <b>0.672</b>                     | -0.058                                 | 0.183                                |
| The organisation considers individuals as an asset and tries to appreciate them continuously                                 | <b>0.587</b>                     | 0.139                                  | 0.128                                |
| Individuals who experiment and take reasonable risks are well-considered even if they make mistakes occasionally             | <b>0.564</b>                     | 0.124                                  | 0.131                                |
| We are not afraid to reflect critically on the shared assumptions we have made about our customers                           | <b>0.502</b>                     | -0.173                                 | 0.387                                |
| Relative to our competitors, our organisation has higher ability to persevere in making our vision of the business a reality | 0.299                            | <b>0.705</b>                           | -0.201                               |
| Relative to our competitors, our organisation has higher tendency to engage in strategic planning activities                 | -0.092                           | <b>0.636</b>                           | 0.062                                |
| Relative to our competitors, our organisation has higher level of creativity and innovation in everything we do              | 0.083                            | <b>0.570</b>                           | 0.239                                |
| Relative to our competitors, our organisation has higher ability to identify new service opportunities                       | -0.014                           | <b>0.453</b>                           | 0.410                                |
| Relative to our competitors, our organisation has strong leadership and higher propensity to take risks                      | 0.104                            | <b>0.336</b>                           | 0.315                                |
| We collectively question our own biases about the way we interpret customer information, do business or evaluate needs       | 0.047                            | -0.069                                 | <b>0.660</b>                         |
| We freely communicate information about our successful and unsuccessful customer experiences across all business functions   | 0.076                            | 0.023                                  | <b>0.561</b>                         |
| Employees in our organisation realise that the very way they perceive the marketplace must be continually questioned         | -0.012                           | 0.106                                  | <b>0.550</b>                         |

|  |              |                |              |
|--|--------------|----------------|--------------|
| Our organisation has processes in place to manage creativity and explicit/tacit knowledge                  | 0.222        | 0.173          | <b>0.539</b> |
| We analyse successful and unsuccessful organisational endeavours and communicate the lessons learnt widely | 0.197        | 0.056          | <b>0.459</b> |
| <b>Factor intercorrelations</b>  |              |                |              |
| <b>Factor 2</b>  | 0.398        |                |              |
| <b>Factor 3</b>  | 0.610        | 0.399          |              |
| <b>Eigenvalue</b>  | <b>6.820</b> | <b>1.523</b>   | <b>1.203</b> |
| <b>Total Variance Explained</b>  |              | <b>59.664%</b> |              |

Note: <sup>a</sup> These items were measured using a 5-point Likert scale, with "1" for "Strongly Disagree", "5" for "Strongly Agree". (Note: Scales comprising of final items only are reported here)

**Table 4: CONSTRUCT MEASUREMENT AND CFA RESULTS FOR THE OOC SCALE**

| <b>Organisational Orientation and Culture*</b>  |  |                       |
|---|--|-----------------------|
| <b>Collaborative Culture</b>  |  | <b>Factor loading</b> |
| • We are not afraid to reflect critically on the shared assumptions we have made about our customers  |  | 0.58                  |
| • The organisation considers individuals as an asset and tries to appreciate them continuously  |  | 0.76                  |
| • Individuals who experiment and take reasonable risks are well-considered even if they make mistakes occasionally  |  | 0.73                  |
| • Everybody's opinions and contributions are respected and preserved  |  | 0.82                  |
| • Problems are discussed openly to avoid fault finding  |  | 0.82                  |
| • Collaboration and co-operation is encouraged  |  | 0.78                  |
| Fit Measures: $\chi^2=20.613$ , $n=224$ , $df=9$ , $CMIN/DF=2.290$ , $p=0.014$ , $BSP=0.102$ , $GFI=0.968$ , $AGFI=0.926$ , $TLI=0.971$ , $CFI=0.982$ , $RMR=0.029$ , and $RMSEA = 0.076$ |  |                       |
| <b>Entrepreneurial Orientation</b>  |  | <b>Factor loading</b> |
| • Relative to our competitors, our organisation has strong leadership and higher propensity to take risks   |  | 0.62                  |
| • Relative to our competitors, our organisation has higher tendency to engage in strategic planning activities  |  | 0.68                  |
| • Relative to our competitors, our organisation has higher level of creativity and innovation in everything we do   |  | 0.75                  |
| • Relative to our competitors, our organisation has higher ability to persevere in making our vision of the business a reality  |  | 0.70                  |
| • Relative to our competitors, our organisation has higher ability to identify new service opportunities  |  | 0.73                  |
| Fit Measures: $\chi^2=0.804$ , $n=224$ , $df=5$ , $CMIN/DF=0.161$ , $p=0.977$ , $GFI=0.999$ , $AGFI=0.996$ , $TLI=1.024$ , $CFI=1.000$ , $RMR=0.008$ , and $RMSEA = 0.000$                |  |                       |
| <b>Freedom of Speech Culture</b>  |  | <b>Factor loading</b> |
| • We freely communicate information about our successful and unsuccessful customer experiences across all business functions  |  | 0.57                  |
| • Employees in our organisation realise that the very way they perceive the marketplace must be continually questioned  |  | 0.74                  |
| • We collectively question our own biases about the way we interpret customer information, do business or evaluate needs  |  | 0.74                  |
| • Our organisation has processes in place to manage creativity and explicit/tacit knowledge   |  | 0.64                  |
| Fit Measures: $\chi^2=6.076$ , $n=224$ , $df=2$ , $CMIN/DF=3.038$ , $p=0.048$ , $BSP=0.073$ , $GFI=0.986$ , $AGFI=0.932$ , $TLI=0.944$ , $CFI=0.981$ , $RMR=0.031$ , and $RMSEA = 0.096$  |  |                       |

(\*: Scales comprising of final items only are reported here.)

**Table 5: SCALE RELIABILITY**

| <b>Organisational Orientation and Culture Scale</b>                             | <b>Chronbach's alpha</b> |
|---|--------------------------|
| <b>Organisational Orientation and Culture as a three factor construct - EFA</b> |                          |
| • Collaborative Culture (6 items)   | 0.876                    |
| • Entrepreneurial Orientation (5 items)   | 0.789                    |
| • Freedom of Speech Culture (5 items)   | 0.782                    |
| <b>Organisational Orientation and Culture as a three factor construct – CFA</b> |                          |
| • Collaborative Culture (6 items) – DS 2  | 0.885                    |
| • Entrepreneurial Orientation (5 items) – DS 2                                  | 0.819                    |
| • Freedom of Speech Culture Revised (4 items) – DS 2                            | 0.759                    |