Towards the Development of a Personal Values Importance Scale (PVIS) - Application in Education

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Abstract

Personal values have been shown to be effective predictors of behaviour across different contexts. Past research has identified the List of Values (LOV) typology can be grouped as either two or three dimensional arguing the context as an influencing factor. To date no attempt has been made to adapt the LOV scale to assess its influence on student’s preferences. This paper develops a reliable and valid personal values importance scale (PVIS) using a two phase approach designed to capture the specific domains of the nine List of Values for application in the context of education.
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Introduction

Previous research (Carman 1977; Williams 1979) held that values function as grounds for behavioural decisions in general and consumption behaviours in particular prompting extensive literature and research studies evident across a range of disciplines. To explain the relationship between values and behaviour, a number of investigations across the disciplines of psychology, sociology, organisational and consumer behaviour have led to a variety of behavioural phenomena such as gift giving (Beatty, Kahle and Homer, 1991), media usage (Kau, Keng and Liu, 1997; McCarty and Shrum 1993), bank selection (Almossawi 2001; Karjaluoto 2002; Ta and Har 2000), store selection (Kim et al. 2002; Shim and Eastlick 1998), organic food purchase (Baker, Thompson and Engelken 2004, Chryssohoidis and Krystallis, 2005) e-shopping (Jayawardhena 2004).

The role of values as that of standard or criterion used in the formulation of attitudes and guidance of behaviour is particularly relevant for marketers. Values impact choice criteria and are instrumental in determining benefit segmentation (Pitts and Woodside, 1984). Undergraduate students as a market are recognised as a relevant and important segment by tertiary institutions, but few studies have taken on an approach to examine personal values as an underlying driver. There is a need for a further investigation of the use of personal values as a driver of choice behaviour. This research aims to develop a PVIS scale as an instrument to investigate students’ preferences towards a particular academic program and university. The LOV inventory will be employed as a foundation from which to develop a PVIS scale. It is proposed the nine LOV values will converge differently to the three identified dimensions of internal, external and interpersonal when applied to an educational context.

Review of the Literature

Values provide potentially powerful explanations of human behaviour because they serve to guide actions, consumer attitudes and consumption behaviour often serving as standards for conflict resolution and decision making across different contexts (White, 2005; Kim, Forsythe, Gu and Moon 2002; Kamauka and Novak, 1992). Rokeach (1973) contends values exist in a hierarchical interconnected system and therefore provide an abstract set of behaviour-guiding principles. According to Homer and Kahle (1988), the reason values can fulfil such a purpose is values function to facilitate adaptation to one's environment whereby individuals are guided about which situation to enter and about and what they do in those situations.

Measuring Values

Defined as among the most abstract of social cognitions values are considered highly elusive to concretely measure (Kahle 1983). Once a value is learned it becomes part of a value system in which each value is ordered in priority relative to other values (Rokeach 1975). The List of Values (LOV) as shown in Table 1 was developed by researchers at the University of Michigan Survey Research Centre (Kahle 1983). LOV
has a theoretical basis from Maslow's (1954) and Rokeach's (1973) theories and has been widely used to study the influence of social values on consumption behaviour (Shoham Florenthal, Rose and Kropp, 1998). As an inventory LOV (Kahle 1983) is a set of reduced list of nine terminal values established a priori to explain an individual’s behaviour toward a particular construct (Lages and Fernandez, 2005). The LOV scale considerably simplifies the ranking task of 18 Rokeach value system (RVS) (Rokeach 1973). Kamakura and Novak (1992) state the LOV provides one solution to the difficulty of ranking 18 values (RVS) and hence considerably simplifies the ranking task. Two of the items in the LOV (sense of accomplishment and self-respect) are identical to RVS items; the remaining LOV items either combine several RVS items or generalize a specific RVS item (Schwartz and Bilsky, 1987). Kahle and Kennedy (1989) stated LOV could serve as a key value measurement instrument in the study of consumer similarities and differences. Another advantage of LOV is its ability to separate the influence of demographics and values on consumer behaviour.

Table 1- List of Values (LOV) (Homer and Kahle 1988)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Internal Values</th>
<th>External Values</th>
<th>Interpersonal Values</th>
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<tbody>
<tr>
<td></td>
<td>(a) Self fulfilment</td>
<td>(d) Sense of Security</td>
<td>(h) Fun and enjoyment in life</td>
</tr>
<tr>
<td></td>
<td>(b) Self respect</td>
<td>(e) Sense of belonging</td>
<td>(f) Warm relationships</td>
</tr>
<tr>
<td></td>
<td>(c) Sense of accomplishment</td>
<td>(g) Being well respected</td>
<td></td>
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<td></td>
<td>(i) Excitement</td>
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</table>

Application of LOV

The LOV typology has been extensively used in research pertaining to values (Chryssohoidis and Krystallis, 2005; Daghfous et al. 1999; Homer and Kahle, 1988; Jayawardhena 2004; Kahle 1983; Kim et al. 2002; Kropp et al. 2005; Shim and Eastlick, 1998). Prior research has shown the marketing context can influence which value dimensions become important (Beatty et al., 1991; Kahle, 1983; Homer and Kahle, 1988). A number of past studies administering the LOV scale as a measurement tool in different marketing contexts have shown the nine LOV values can be grouped into either two or three latent dimensions. Studies suggesting three outcomes were found to incorporate the dimensions of; (1) individual internal values (self fulfilment; excitement; sense of accomplishment; and self respect) (2) interpersonal internal (fun and enjoyment in life and warm relationship with others) and others) and (3) external dimension values (sense of belonging; being well respected; and security) (Kropp et al., 2005; Jayawardhena, 2004; Chryssohoidis and Krystallis, 2005; Kim et al., 2002; Shim and Eastlick, 1998; Homer and Kahle, 1988). The findings of such studies generally indicate that appealing to and reinforcing the views espoused by values upheld towards a particular marketing activity can provide an avenue for individuals to satisfy these needs. The importance of using a well-established values scale becomes paramount when assessing scale reliability and validity. Evidence of the LOV scale meeting both requirements has been cited extensively in past research (Kahle et al. 1996; Kropp et al. 2005).
The Proposed scale- PVIS

As is the case in most LOV research over the past five years, parenthetical definitions were applied to each of the values on the survey instrument (Kropp et al. 2005). Desiderato et al. (2002) chose to develop their own measure of educational values specific to the cohort of students sampled to provide insight on perceptions of educational experiences. The PVIS scale was envisaged to be measured by nine personal values originating from LOV (Kahle 1983) with each value measured by five statements, culminating in 45 statements. The PVIS scale was constructed using a seven point Likert-type scale (1= strongly disagree to 7= strongly agree). Respondents were asked to rate the extent to which they agreed with five parenthetical definitions constructed to measure each personal value in terms of their importance.

Operationalisation of the Variables and the Construction of the Questionnaire
Phase One - Scale Development

Phase one of the research entailed exploring the underlying meanings a convenience sample of students held of the nine LOV factors directed by a two step approach. In developing, assessing and implementing a multi-item scale measure, a number of guidelines and procedures were undertaken to ensure the measures are ‘as psychometrically sound as possible’ (Bearden and Netemeyer, 1999 p.3). Accordingly, a qualitative survey was used to capture the respondent’s interpretation of the nine LOV values. Forty-five undergraduate Business students in their second and third year majoring in Marketing participated in the survey. The item development phase generated just over 900 responses to the three open ended questions pertaining to the nine LOV values on the survey. The second step entailed conducting a pre-test on a eighteen second year Business students to draw attention to any issues as of validating items wording, ease of filling out the questionnaire and ordering of the questionnaire Through the process of identifying the domain of the construct, generating items that explore the domain and subsequently purifying the resulting scale, the underlying objective is a measure that is content valid and reliable (Churchill 1979, p. 70).

Phase Two –Application of PVIS -Overview of the sample and data collection

Phase two of the research entailed collecting data for a population of interest consisting of all first year undergraduate students enrolled in their first semester of a particular degree program at an Australian University. As elements of the population logically clustered into identifiable cohorts (portfolios), a cluster sampling approach was used. Each of the three portfolios (Business, Design and Social Context (DSC) and Science and Engineering Technology (SET) represented a cluster. Approximately 450 self administered surveys were distributed across the three portfolios with the final sample size equating to 304 respondents indicating a 67% response rate. Of the 304 responses, 42% were from the Business portfolio, 28.5% from DSC and the remaining 29% from SET.
**Data Analysis**

An exploratory factor analysis was used to assess the dimensionality and serve as a precursor to confirmatory factor analysis for theory development and assessment. Two types of measurement models using Amos 7.0 examined the construct, convergent and discriminate validities of the PVIS.

**EFA - Personal Values Importance Scale (PVIS)**

Based on prior research (Homer and Kahle, 1988; Veloutsou *et al.* 2004), the latent root criterion technique for extracting significant factor scores within each dimension was employed. Nine factor scores were presented as substitutes for the original surveyed variables. By running a separate analysis for each construct to establish a single eigenvalue above one, convergent validity was also verified. The decisional rules applied to identify variables required a factor loading of at least .50 and for that variable not be split loaded on another factor (Hair *et al.* 1998). A two factor solution of internal and external values for the LOV scale was extracted explaining 63.3% of the variance in the data. The importance of a factor (or set of factors) is evaluated by the proportion of variance covariance accounted for the factor after rotation. The internal consistencies of the subscales were assessed with the use of Cronbach’s α for each of the two indices (.849 and .792). Both factors exceeded the 0.70 criteria (Nunnally 1994) therefore demonstrating acceptable scale reliability.

**Table 2 – Extracted Components PVIS**

<table>
<thead>
<tr>
<th>Extracted Components -PERSONAL VALUES</th>
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<tr>
<td>Factors</td>
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<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td><strong>Factor 1: Internal</strong></td>
</tr>
<tr>
<td>(Va) (Vb) (Vc) (Vh) (Vi)</td>
</tr>
<tr>
<td><strong>Factor 2: External</strong></td>
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<tr>
<td>(Vd); (Vg); (Ve); (Vf);</td>
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**Scale Reliability and Validity**

**Measurement Models -One factor-Congeneric Measurement Models**

Measurement model were initially estimated using AMOS 7 (Jöreskog and Sorbom, 1993) to examine the validity and reliability of the measurement properties of the latent variables of interest. As a result of the review process of model specification and ‘goodness of fit measures’, thirty seven of the forty five items representing the nine LOV values were retained. Value (g) ‘Being Well Respected’ was the only value to retain all five statements as measurement items ($\chi^2(5) 2.1 p=.827$). All of the other values retained four of their five value statements. The chi square ($\chi^2$) statistic for the values of ; b) Self respect ($\chi^2(5) 43.7 p=.358$); (c) Sense of accomplishment ($\chi^2(2) 4.7 p=.095$); (e) Sense of belonging ($\chi^2(2) 4.5 p=.105$); (f) Being well respected ($\chi^2(5) 2.1 p=.827$); (h) Fun and enjoyment in life ($\chi^2(2) 1.4 p=.486$); (i) Excitement ($\chi^2(2) 1.3 p=.508$); (a) Self fulfilment ($\chi^2(2) 6.9 p=.030$); (d) Sense of Security($\chi^2(2) 6 p=.049$); and (f) Warm Relationship with Others ($\chi^2(2) 6.9 p=.032$; supported by fit indices of GFI, TLI, CFI and AGFI respectively for the one factor congeneric
models indicated a range of .942 to 1.0 suggesting the data fit the models well. RMSEA also fell within an acceptable range of .06 (Hu and Bentler 1999).

Multi Factor Models

A two-factor measurement model including all items for internal and external constructs did not initially fit the data well ($\chi^2(26) 124.2 p=.000$). Two underlying causes of discrepancy were identified. The first occurred between values (h) ‘Fun and Enjoyment’ and (i) ‘Excitement’ as evident from misspecification indicators (standardised residual = 4.400 and MI= 28.829). This suggests the model is not accounting well for the covariation that exists between these two values. From the perspective of the respondents, there appeared to be little differentiation between these two values and one could in essence substitute ‘Fun and Enjoyment’ for ‘Excitement’. Further inspection of indices showed the second misspecification occurring between value (d) ‘Security’ and value (c) ‘Sense of Accomplishment’ (standardised residual = 2.476). A subsequent two-factor model with the deletion of value (h) and value (d) showed to be a better fitting model. The predictive ability of these two values measured in terms of their allocated importance was also taken in to account. An examination of the model fit statistics suggests the data fit the model data well ($\chi^2(13) 124.2 p=.078$), RMSEA =.04, GFI=.981, TLI=.982, AGFI=.959 and RMSEA is found to be less than 0.05 indicating the error terms are small and acceptable (Helgesen and Nesset, 2007). A significant chi square difference test df (1)44.3) indicated discriminant validity between the constructs of internal and external values (Anderson and Gerber 1988).

Discussion and Conclusion

This study sought to develop a personal values importance measurement scale (PVIS) designed to capture the specific domains of the nine LOV. The relevancy of this scale relates to developing insights in understanding how personal values drive and influence the educational choices prospective undergraduate students undertake when expressing their particular preferences. Understanding how undergraduate students choose a particular degree program has significant implications for tertiary institutions for attracting and retaining students. The findings of this investigation support the initial assertion that the LOV factors employed to construct a PVIS scale converged differently to the original LOV dimensions when applied to an educational context. The results showed support that the LOV scale consists of two underlying dimensions that of ‘internal’ and ‘external values’. The internal dimension was measured by the four values of ‘self fulfillment’, ‘self of accomplishment’, ‘self respect’, and ‘excitement’. The external dimension was measured and represented by the values of ‘being well respected’, ‘sense of belonging’ and ‘warm relationships with others’. The data indicates that these factors are convergent on these two dimensions and that the relationship of the PVIS scale developed has discriminant validity.
References


Chryssohoidis G, M., Krystallis, A., 2005 ‘Organic consumers’ personal values research: Testing and validating the list of values (LOV) scale and implementing a value-based segmentation task’ *Food and Quality Preferences* Vol 16 pp. 585-601


Williams, R. M., Jr (1979) ‘Friendship and social values in a suburban community’ Pacific Sociological Review Vol 1 pp. 3-10