Applying a Universal Content and Structure of Values in Construction Management

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ABSTRACT. There has recently been a reappraisal of value in UK construction and calls from a wide range of influential individuals, professional institutions and government bodies for the industry to exceed stakeholders' expectations and develop integrated teams that can deliver world class products and services. As such value is certainly topical, but the importance of values as a separate but related concept is less well understood. Most construction firms have well-defined and well-articulated values, expressed in annual reports and on websites; however, the lack of rigorous and structured approaches published within construction management research and the practical, unsupported advice on construction institution websites may indicate a shortfall in the approaches used. This article reviews and compares the content and structure of some of the most widely used values approaches, and discusses their application within the construction sector. One of the most advanced and empirically tested theories of human values is appraised, and subsequently adopted as a suitable approach to eliciting and defining shared organisational values. Three studies within six construction organisations demonstrate the potential application of this individually grounded approach to reveal and align the relative values priorities of individuals and organisations to understand the strength of their similarity and difference. The results of these case studies show that this new universal values structure can be used along with more qualitative elicitation techniques to understand organisational cultures.

KEY WORDS: business, construction, management, project, value, values

Introduction

This article describes the selection and innovative re-application of existing approach to understanding values that can be used by construction organisations to inform the development of policies, selection of participants, formation and leadership of teams or appraisal of personnel. The Schwartz Values Survey and universal values structure, one of the most advanced theories of human values, has been adapted and applied in this article to access its effect on delivering greater value, building customer-oriented cultures and demonstrating corporate social responsibility (by protecting the various interests of stakeholders). It is hoped that the application of the SVS will allow organisations and teams to further understand the complex social realities that run along side the industry's highly adept technical processes and solutions.

Delivering value

Government and industry bodies are with increasing frequency exhorting the construction industry, and its clients, to both deliver and demand greater value. These include: CABE (2002, 2003, 2004, 2005), Egan (2002), OGC (2003), NAO (2004a, b), Saxon (2005) and Worpole (2000). Some, for example the Strategic Forum for Construction (Egan, 2002) demands greater stakeholder value through the development of integrated project teams, while others call for the building of cohesive sustainable communities or the creation of attractive spaces and clean and friendly neighbourhoods. More generally, they imply a move from simple management notions of optimising time, cost and quality to a more sophisticated appraisal of the impact of the built environment on diverse stakeholder needs and expectations.

An appraisal of literature reveals a lack of clarity and consensus on what exactly is meant by 'value' in

the construction context, and how it might be measured. The terms 'value' and 'values' are often conflated, and Thomson et al. (2003) have argued for better definitions of these terms. Where organisations articulate their values, their origins are often unclear or they are confused with strategic goals such as competitiveness and productivity (Webley, 1999).

We support the view that value judgements are distinct from, but ultimately based on, the values of individual and organisational stakeholders. Moreover, we argue that it is helpful for groups to identify, share and, where appropriate, align their values. This position is supported by Constructing Excellence, which has recently called for new mechanisms to motivate and align individuals in order to deliver value to individuals, organisations, institutions, industries and society at large (Saxon, 2005).

As with value, such a position begs the question of how to go about it – especially when dealing with often unspoken feelings and beliefs. We suggest that the process can be assisted by starting the dialogue with the capture, analysis and discussion of the values priorities of individuals and groups using a method based upon Schwartz's theory of universal human values (Schwartz, 1992). Before explaining our choice of this approach in Section 'Values theory', we examine the broader business literature for arguments of the merits of understanding values.

The benefits of organisational values programmes

This section reviews management literature relating to individual, organisational and project values, and balances the positive and negative arguments of their use as a means to deliver business success.

Organisational values and business strategy

Over the last 50 years, many business management and academic authors have contributed to the debate on whether high performance cultures are those that have strong integrated values. Peters and Waterman (1982) are well known for emphatically pronouncing strong shared values as the core of an excellent corporate culture. However, their findings have been superseded by more rigorous studies, for example

Kotter and Heskett's (1992) study of 207 US firms found that an organisation's strong values can drive either high or low performance, depending on that organisation's ability to align with its market and adapt its strategies and practices accordingly (Kotter and Heskett, 1992). We would agree that peoples' personal values should form the basis for understanding organisational values, because strategy is relatively easy to change in comparison to individuals' beliefs and attitudes. For example, McDonald (2002) sees strategy formulation being informed by the persisting cultural values of an organisation, while Hofstede (2001) believes, 'adapting the strategy is usually simpler and cheaper than trying to adapt the culture' (p. 408).

According to Handy (1993), the culture and leadership style of an organisation can be typified as a continuum ranging from a power culture, which has a founder who sees his/her own values strategically forming the basis of all organisational decisions, to a person culture, where individuals work autonomously making decisions framed by their own values. Consequently, the extent of perceived autonomy and control should be recognised when managing people and formulating values and strategies. This is implicit within the field of strategic business management, where organisational decision makers build their strategies in various ways. Bailey and Johnson (1992) and McDonald (1996) for example, state that business managers select a mix of: (1) highly rationale planning processes, developed using data to derive optimum solutions; (2) existing shared cultural frames of reference and common values; (3) consensus building approaches where no one stakeholder has significant influence over any other; (4) antonymous subgroups and committees that address specific problems without need for a highly structured overarching system; (5) adherence to statutory codes and regulations or (6) an emphasis upon strong visionary leadership.

Whilst these factors are important, they do not necessarily describe which stakeholders should be consulted or how they should be involved in the values formation process. For example, when organisations use visionary leadership to formulate strategy, leaders must have a sound understanding of their own values, those of the organisation and of the market, in order that they can make well-directed decisions. Whereas an organisation formulating a strategy between many antonymous subgroups, may

choose to understand separate stakeholder group values and to align these when necessary to reach consensus. In an organisation with a clearly defined leader, the leadership role, will play a critical role in creating and maintaining an organisation's culture. From the outset, a founder will begin the cultural creation process in an organisation by recruiting, selecting and promoting who they think will most successfully deliver their vision. According to Schein (2004), leaders embed their values within a culture because people are guided by what leaders pay attention to, measure and control. More recent debates on transformational leadership and values-based management, stress the transfer of individual and organisational means, and ends values from leaders to employees to increase their understanding of task importance. As such leaders must ensure that their values are clear and congruent with their actions to build confidence and trust (Ciulla, 1999).

Organisations are institutions that are 'nested within societies' and influenced by national cultures and local communities (Sagiv and Schwartz, 2007). According to them, this may partly be because 'organisations must gain and maintain a minimal level of approval from society in order to function effectively' (p. 178). Since such approval is necessary in order to recruit, obtain resources and find markets. Further to this 'in the long run, organisations must be able to justify their activity as expressing or at least not contradicting the preferred values prevalent in their society' (Sagiv and Schwartz, 2007, p. 178). Otherwise, they face criticism, pressure to change, or even denial of resources. Consequently, negative press and constraints imposed on a business can be severely damaging to an organisation, so they must align and 'develop and evolve in ways that are compatible to some degree with the societal culture in which they are nested' (Sagiv and Schwartz, 2007, p. 178).

Project values and stakeholder value management

Values definition is rarely described in a project context, which is surprising given that it is this temporary environment that brings together organisations, disciplines and wider stakeholders with potentially divergent values systems and influences. There are however a number of construction specific project approaches that we will further discuss here. FUSION is a client-developed, project team collaboration tool that has been promoted by the Strategic Forum for Construction (Thomas, 2000). It uses a behaviour-based questionnaire structured around six collaboration values (Fairness, Unity, Seamless, Initiative, Openness and No blame) as a means to enable a team to understand and measure good partnering practices. This tool, whilst promoting a highly effective structured discussion, focuses on partnering values, and so does not elicit the full array of values relevant to all stakeholders, processes and products and does not explicitly balance conflicting values. Other approaches, such as value management and architectural brief-taking see values expressed in the mix of requirements, objectives and functions (Kelly, 2007; Liu and Leung, 2002). However, people may find values difficult to express in a group-based environment (with strong minded individuals), where quick consensus is important and without concerted effort, structure and facilitation skill. This presents an opportunity to develop a structured and easily applied method for use within a project context.

Individual values and motivation

Some academics have grown cautious and sceptical of the importance of shared monolithic organisational values, reputing that they cannot fully explain or predict human action. Swindler (1986) saw the social action and motivation of individuals as complex, where peoples' perceptions shift and change to make decisions based on many conflicting individual and social factors. As such, corporate leaders cannot expect to drive an organisation by articulating abstract, sociological values statements alone, rather they must also be considerate of individuals' values and their alignment with organisational statements. Several empirical studies have shown that individual and organisational values alignment can positively affect employee satisfaction, work attitude, commitment, effectiveness and staff turnover (Meglino et al., 1989; O'Reilly et al., 1991; Posner et al., 1985). What is more, statements from senior executives of successful multi-national organisations such as Microsoft (Peat, 2003) and Levi Strauss (Haas and Howard, 1990), also provide evidence of the benefits of aligning individual and organisational values.

The empirical work of Posner and Schmidt (1993) is perhaps the most interesting in relation to the alignment of individual and organisational values. Following the research of Liedtka (1989), they sampled 1059 individuals and grouped them into four subgroups according to their own perception of the clarity and certainty with which they understood their individual and organisational values, and then correlated these results with work commitment and ethical attitudes. Those in the sample who were aware of both their individual and organisational values had the highest level of commitment and a positive attitude towards their work and ethical practices, whereas those who were unaware of individual and organisational values were less committed and had more negative attitudes. Interestingly, those who had an understanding of their individual values but did not understand the organisations values, had relatively high attitude and commitment to work, while those who were personally unsure of their individual values but understood those of their organisation were less positive and less committed to their work. According to Posner and Schmidt (1993), this may suggest that clarity about personal values is more important than an understanding of organisational values in improving attitudes and work commitment; also maybe suggesting that the values that motivate one person may not motivate another. For example, an individual who rates conformity values highly, may determinedly work towards a set of organisational values, and may restrain their own priorities. In contrast, an individual who rates self-direction values highly, may be more likely to make autonomous choices, and will be less likely to conform to values imposed on them. This suggests that individual commitment will be greater when an individual's values are aligned and collectively realised with those of their organisation.

Many authors would agree that organisations that express human values will provide employees with a broader and more motivating common purpose than those organisations that define strategic goals alone. For example, Sawhney (2002) believes organisations will motivate employees, satisfy customers and create committed partners by making 'higher purpose their compass, and values their anchor' (Paragraph 4). Similarly, Peat (2003) believes that shared organisational values will 'harness the emotions and spirit of every individual towards a common purpose' (p. 3), while Dolan and Garcia (2002) claim that employees will give their commitment and be inspired to take ownership of their work if they share a common purpose (minimising the need for time-consuming controls). What these examples emphasise is that organisations should think of organisational values as energizing, motivating, and inspiring concepts that people care passionately about rather than 'shoulds' on what to do or not to do; because when people value something they spur themselves on to greater achievements (Jaffe, 1998).

Given the complexity surrounding values and their application, it is unlikely that organisational priorities, defined as values statements alone, will be enough to inform day-to-day decision making. Individuals at all levels should have the understanding and skills to make value judgements and be conscious of their individual and organisational values, to help them build enthusiasm, commitment, and address misalignment and potential conflicts. The risk of not aligning individual and organisational values may be that employees find it hard to commit to those strategic organisational values exposed by senior managers, resulting in values not being enacted in practice and perceptions of 'empty', 'lofty' and 'hollow' organisational commitments. This according to Lencioni (2002) and Sawhney (2002) can do more harm than good and can lead to cynical and dispirited employees, alienated customers, and discredited management. Given the strength of these arguments, we recommend that individual and organisational values should be aligned, rather than imposed top down as a set of monolithic values by senior managers.

Applying values

Values priorities are often tacitly held by individuals, which accounts for the popularity of pre-defined lists or taxonomies of values. What is more, people have a tendency to project their own values onto others, by assuming that everyone perceives the world in the same way, because it is language that helps and delimits the development of values. As such, it is often only by understanding our own values, that we can start to, without bias, recognise the values systems of others, and so it is important that everyone

understands that peoples' diverse value judgements should be respected.

This article reviews the theoretical content and structure of a number of highly rational values identification methods that can be quickly used to confirm or deduce the values of large organisational samples, that is in contrast to the most applied methods today. Application methods within the construction industry, by-and-large, are applied informally and do not stress the significance of all individuals in delivering organisational values through their actions and behaviours day-to-day; rather they define the values statements of a core management team through brainstorming workshops, which do not build organisation wide commitment and at best describe a simplistic view of organisation's high level priorities. What is important to remember here is that according to Baines (1998), 'much of the benefit of values ownership is achieved through truly participative processes' (p. 14), a view shared by McDonald and Gandz (1992), Jaffe (1998) and Sawhney (2002), and enacted within multi-national companies by Jaffe (1998), using 'value cards' as a starting point to initiate discussion. Some authors, however, contest that organisational values identification should be a 'feel good effort' to engage employees and build consensus, rather a way of imposing fundamental and strategically sound belief structures on a broad group of people (Lencioni, 2002, p. 116). We believe that individual values identification is both a personal and organisational process that allows staff to present their views and leaders to reconcile these with their own.

Values are deeply and often tacitly held beliefs. As such the sharing of individual responses must be pre-agreed by all participants and anonymity must be used when necessary to minimise surprise. It is important that employee expectations are communicated openly, and that resources and senior management commitment are provided. It is also important to pre-agree the personal and strategic mechanisms that will enable and measure the enactment of values in practice, for example employee–manager interfaces by way of personal review, Brown (1976), strategic committees, employee representative groups and customer market planning activities to align individual, organisational and market values.

Values theory

Our research has concentrated on the need for construction businesses, policy makers and other stakeholders to develop a better understanding of their values and has sought an appropriate method of values identification with a sound theoretical basis. Described here are some of the key authors in human values theory development.

Historical and theoretical perspectives

There is growing consensus regarding the most helpful means to conceptualise basic human values, but this has not always been the case, with many concepts needing disentangling (Hofstede, 1998). We outline here key contributors to the field of human values theory before focussing on that of Shalom Schwartz. Kluckhohn (1951) wrote: 'A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable, which influences the selection from available modes, means, and ends of action' (p. 395). This definition firmly attributed values as person-centred and established them as characteristics of both individuals and groups. Subsequently, Rokeach (1972) defined values as '…enduring belief[s] that a specific mode of conduct is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence' (pp. 159–160). He recognised values as giving meaning to action, postulated their dynamic trade-off structure and described them as relatively enduring over time. More recently, Schwartz (1987, 1992, 1994a, 2005) has gained widespread agreement on five features of values as:

1. *beliefs*, cognitive structures that become infused with feelings;
2. *desired goals* with motivational ends that people (e.g. organisational leaders, policy-makers, individual persons) strive to attain;
3. *transcending* specific actions and situations as socially desirable goals that people think they ought to realise;
4. *standards* or criteria used to judge most things of importance, including the selection or evaluation of objects, actions, policies, people and events as either good or bad; and

5. *ordered* by relative importance and so form a system of value priorities that characterise cultures and individuals.

Values have been confused with many different, but similar concepts and so here we try to differentiate between them. Unlike attitudes, values are abstract humanly held notions that are not related to any particular object. According to Rokeach (1973), values hold a higher place in people's internal evaluative hierarchy than attitudes and as such values-based behaviour, rather than actions driven by personality traits, has more cognitive control. In a similar way to how values frame value judgments, one or many values may frame an individual's attitude. Values are usually desirable or positive statements, '…otherwise we would speak of disvalues', in contrast to attitudes, which can be both positive and negatively expressed (Rescher, 1969, p. 5).

The breadth of values understanding is of particular relevance in enacting business ethics and corporate social responsibility. Values provide a broad framing structure that helps us to understand particular choices in a wider context of concerns that will shape ethical decision making (Carroll, 1996; Guth and Tagiuri, 1965). This same view is well illustrated by Hitlin and Piliavin (2004), who see values forming an internal moral compass.

Values are learned by individuals through socialisation according to the specific moral and cultural paradigms within a social group. Norms also play a key role in the socialisation process, however, they capture an 'ought' sense, whereas values capture a personal or cultural ideal (Hofstede, 1998). Individual values are acquired in a persons '…early youth, mainly in family and in the neighbourhood, and later at school. By the age of 10, most of the child's values have been programmed into his or her mind' (Hofstede, 2001, p. 394). However, a person values priorities may change throughout their working lives through experience, knowledge and skills growth.

Every individual or group will have values that are partly unique and partly shared, and as such universal values are those that are shared by all people, across all nations, ages, backgrounds and religions, and hence existing and persisting in an 'objective sense' (Haller, 2002, p. 141). According to Schwartz (2005), universality in values is a result of three requirements of the human condition: the needs of individuals as biological organisms, the requisites of coordinated social interaction, and survival and welfare needs of groups. The major differences between values and needs is that values are always motivational, unlike needs that are only motivational when they are unsatisfied (Maslow, 1962).

The link between values and behaviour remains unclear; however, values seem to act as guidelines that direct value congruent behaviour (Bardi and Schwartz, 2003; Desjardins, 2002; Hitlin and Piliavin, 2004; Jaffe, 1998; Jones and Pollitt, 1999; Peat, 2003; Sawhney, 2002; Schwartz, 2005; Smith et al., 2002). What is interesting is that we can in part understand both values and behaviours using the same universal values structure. This has been demonstrated empirically by Bardi and Schwartz (2003), who believes that people behave according to values because of a need for consistency, to help in relationships or because value-consistent action is rewarding and helps people get what they want. As such the relationship between behaviours and values exhibits a similar structure to the motivational continuum in Schwartz's values theory, presented later in this article.

In 2002, the European Social Survey (City University, 2007) was commissioned to explain the interactions among European attitudes, beliefs and behaviour patterns, and how these change over time. This survey is being administered internationally under the three themes of: people's value and ideological orientations, people's cultural/national orientations and the underlying social structure of society. Schwartz himself is one of the international academic specialist within the human values field to be commissioned to investigate people's world views, including their religiosity, their socio-political values and their moral standpoints. For this, he derived 21 basic human values items and a scale from the well-grounded theory, later applied in this article. The data from the European Social Survey (ESS) will no doubt provide highly valuable information along with the European (and World) Values Surveys and the International Social Survey to help understand the similarities and differences between cultures and their cohesion.

Universal human values content and structure

This article investigates the role of identifying universal values, as a means of promoting a dialogue of values within the construction industry. However, in taking this rational ontological position, we have excluded the use of more subjective and qualitative methods that can collect unique values using, for example elicitation techniques. In doing so, our assumption is that different cultures and individuals, while sharing a universal language of values, will prioritise them differently, depending on their unique experiences.

There are significant theoretical and practical advantages to identifying a limited set of universal values. Rokeach (1973) was one of the first to use values surveys derived from a theoretical perspective. He selected 36 values largely on an intuitive basis informed by literature and interviews. From this, he postulated that values could be classified according to specific socialisation groups such as family, religion and politics, forming interdependent types that were in opposition to one another: moral versus competence and personal versus social. Schwartz (1987) and Schwartz and Bilsky (1990) took a more structured approach by suggesting an underlying tentative theory based on universal requirements of human nature and interest (individualistic vs. collectivist) that encompassed 11 motivational goals based on 56 specific values. According to Schwartz (1992), the 56 values were a combination of 21 values items identified by Rokeach (1973), as well as Braithwaite and Law (1985), Chinese Culture Connection (1987), Hofstede (1980), Levy and Guttman (1974), and Munro (1985). The 56 values were judged to have a clear motivational goal; however, in some cases, values had multiple goals, for example intelligent and self-respect. According to Schwartz and Boehnke (2004) and Schwartz (2005), this survey instrument was validated, through use, by some 64,000 people, across 67 countries, from highly diverse geographic, cultural, linguistic and religious backgrounds. Schwartz then used confirmatory factor analysis, with just under 11,000 people over 27 countries, to revalidate his theory that was previously devised using similarity structure analysis (Schwartz 1987), and more recently with more widely available factor analysis techniques.

Schwartz's model and fundamental motivational continuum are the most advanced values theory to date and can help individuals and organisations move beyond studying independent and singular values, to think about values systems and the dynamic interrelated structure of values. As we will see, other authors have tried to identify and classify values, by intuitively ordered values into groups to add efficiency to sorting and data analysis. However, these categorisations may be less rigorous than those defined by Schwartz empirically using Similarity Structure Analysis, a procedure that maps values items as points in a multi-dimensional space and where the distance between values items is their degree of interrelatedness (Schwartz, 2005).

It is important to note that the same basic dynamic values structure active in the individual-level values model is also active at the cultural and institutional level. According to Schwartz (1994b, 1999), this individual and cultural congruence is because of the conflict or hypocrisy that would arise were institutions to emphasize and promote competing values simultaneously. He goes on to say that whatever the level, values are conceptually related, first because the social priorities of a culture will emerge from the psychological dynamics inherent in human nature and in universal aspects of social interaction. Second, individuals are socialised into an organisation, internalising the values that will promote common interests and conform to organisational norms. Third, cultural value priorities help to determine whether conflict or compatibility is experienced.

According to Schwartz (2005), values, approximately speaking, fall into one of 10 universal values categories within a quasi-circumflex system. This motivational continuum has 'fuzzy' lines of segregation, where adjacent values are congruent because they share an underlying need or motivational goal, while those which are opposite in the circle conflict, because their underlying motivations are opposed. Figure 1 is an adaptation of Schwartz and Boehnke's (2004) own model, which pictures the '…total pattern of relations of conflict and compatibility among values priorities' (p. 231). Theoretically, Schwartz's model locates tradition outside conformity in a single segment, because they share the same broad motivational goal (e.g. 'subordinating self in
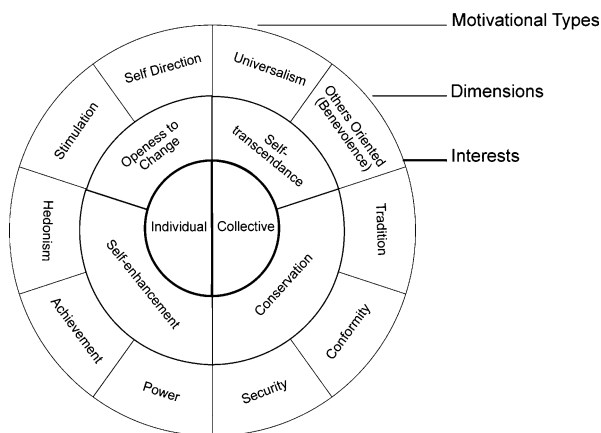
Figure 1. Theoretical model of relations among 10 motivational types of values, adapted from Schwartz and Boehnke (2004).

favour of socially imposed expectations', p. 235). However, Schwartz and Boehnke (2004) themselves explains that it is hard on empirical grounds to choose whether they should be defined as one or two categories, As such, we have pictured Tradition and Conformity side-by-side to simplify data presentation and analysis.

The most basic and well-supported values interrelationship is between individual and collective interests, where the attainment of values that serve individual interests are by their nature opposed to those that serve collective interests (Hofstede, 2001; Schwartz, 1994a). The next level segments into four, with two higher-order bipolar value dimensions, self-transcendence versus self-enhancement and openness to change versus conservation. At the next level are the 10 motivational types, which are populated with the 56 values items. According to Schwartz, this fundamental model can be partitioned at any level into as many or as few categories as required to describe more simply the circular motivational continuum. Schwartz and Boehnke's (2004) own model is segmented into the four higher-order values, however, we in Figure 1, use further categorisations of adjacent motivational types, as defined by Schwartz (1992) and further described in Table I. This interrelationship between values forms a competing values system structure that is a dynamic predictor of value conflict and congruence within individuals and groups.

Comparisons of values taxonomies

Schwartz (1992) comments that the comprehensiveness of any instrument is a basic methodological problem made more important, because without it the study of values correlation and relative importance will be less robust. Table II compares, against the SVS, the comprehensiveness of four well-known values lists that are practical and relevant to occupational work situations. These include: Rokeach (1973), whose list was the principle source for Schwartz; Jaffe and Scott (2004), who developed a values instrument, and card sorting method to identify individual and team values as a means of creating organisational values statements congruent with individuals; McDonald and Gandz (1992), whose list is based, in part, from mapping Allport (1961), England (1967) and Rokeach (1973), and aimed at Managers and Human Resource professionals to discuss, agree and manage shared values as they integrate with business strategies; and lastly Hofstede (2001) and Hofstede et al. (1993), whose VSM questionnaire is widely used in business management, and combines items that elicit the importance of both work values and practices. A number of authors have been omitted due to the non availability of their instruments; however, Braithwaite and Scott (1991) provides a broad review of values identification methods, but not Schwartz or the full content of these methods. Authors of particular significance from Braithwaite and Scott (1991) are: Inglehart (1971) who's conceptualisation, according to Braithwaite and Scott (1991) is based on Maslow's (1962) theory of human needs and Gordon (1960) survey of Personal and Interpersonal Values, that further operationalises the distinction between individual (self-oriented values) and collective (group-oriented values). The primary impetus behind the comparison in this article is to identify a suitable language of values which could be used by the range of stakeholders, who might be involved in a construction project, from novice clients to construction professionals. Table II shows in bold text, values items from alternative lists that are directly equivalent to those in Schwartz and Boehnke (2004), in plain text indirect and more specific alternative values descriptions. Italic text shows more specific work situated values and a 'X' is where a list has no alternative value.

TABLE I

A summary of classifications in the Schwartz values model (Schwartz, 1992)

Motivational type	Goal	Description of motivational type	Compatibility (Motivational emphasis of adjacent values)	
Universalism	Welfare of all people (understanding, tolerance)	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature. This contrasts with the others oriented values in that Universalism values are related to the wider society and world, the scarcity of natural resources, and protection of the natural environment. People holding these values see ethical and social responsibility as very important issues, and as such may consider their importance to be objectively good or right	Enhancement of others and transcendence of selfish interests	Reliance upon one's own judgement and comfort with diversity of existence
Others oriented (benevolence)	Welfare of personal contacts	Preserving and enhancing the welfare of people within ones own group. They relate to a persons requirement for smooth, aligned and harmonious group functioning and from their need for affiliation. People who see these values as important are primarily motivated by developing relationships, helping and working with others, feeling part of a team, and sharing experiences	Subordination of self in favour of socially imposed expectations	Devotion to one's group, Normative behaviour that promotes close relationships*1
Tradition	Respect, commitment and acceptance of customs	Respect, commitment, subordination and acceptance of the abstract customs and ideas that a culture provides, such as religion. Cultures everywhere develop practices, symbols, ideas, and beliefs that represent their shared experience, vision and mission. People who hold these values focus on the enduring qualities, which they understand and so are comfortable with		Preserving existing social arrangements that give certainty to life*2

TABLE I

continued

Motivational type	Goal	Description of motivational type	Compatibility (Motivational emphasis of adjacent values)	
Conformity	Avoiding upset or harm to others	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms. Conformity values emphasis people's self-restraint in everyday interaction and their subordination to persons with whom they are in frequent interaction (e.g. parents, teachers, bosses)	Protection of order and harmony in relations	Normative behaviour that promotes close relationships[*1]
Security	Safety, harmony and stability	These values relate to the safety, harmony, and stability of our society, group and self. Some security values serve primary individual interests (e.g. healthy), others primary wider group interests (e.g. national security)	Avoiding or overcoming threats by controlling relationships and resources	Preserving existing social arrangements that give certainty to life[*2]
Power	Status, prestige and control	Social status and prestige, control or dominance over people and resources. Power values emphasise the attainment or preservation of a dominant position within a social system	Social superiority and esteem	
Achievement	Personal success and competence	These values represent the search for organisational, professional and individual success and the demonstration of competence according to a social standard. They relate to the successful generation of outcomes and use of resources in order for individuals and groups to progress and attain their goals	Self-centred satisfaction	
Hedonism (Enjoyment)	Pleasure and sensuous gratification	Pleasure or the sensuous gratification of oneselves. Hedonism values are derived from peoples' needs and expectation and the pleasure associated with satisfying them	A desire for affectively pleasant arousal	

TABLE I
continued

Motivational type	Goal	Description of motivational type	Compatibility (Motivational emphasis of adjacent values)
Stimulation	Excitement, novelty and challenge	Excitement, novelty, and challenge in life. Stimulation values are derived from the need for variety and stimulation through our participation in positive activities rather than threatening ones	Intrinsic interest in novelty and mastery
Self-direction	Independent thought and action	Independent thought and action through choosing, creating and exploring. Self-direction values are derived from the need for control and mastery and is our requirement for autonomy and independence	Reliance upon one's own judgement and comfort with diversity of existence

This investigation shows the Schwartz and Boehnke (2004) 56 values item definition to be the most complete values definition, followed by Jaffe and Scott (2004) covering 54%, Rokeach (1973) 52%, Hofstede et al. (1993) and Hofstede (2001) 21%, which has 23 work-related items that may account for the low coverage, and McDonald and Gandz (1992) 20%.

Mapping value criteria at both the category level and individual value item level, illustrated that while some relationships were intuitively aligned, categorisations in the three alternative lists fell across different Schwartz and Boehnke (2004) categories. As such, Schwartz's empirically tested universal values structure may illustrate the subjectivity of categorisation in these alternative lists.

Given that values are scored relative to one another, the breadth of values is highly important during their measurement. Some authors have excluded whole categories, for example only half of the authors sampled have identified values relating to the Tradition category. Schwartz (1992) asserts that the 10 motivational goals are exhaustive of all the main types recognised in different cultures because 'it is possible to classify virtually all the items found in lists of specific values from different cultures…into one of these 10 motivational types of values' (pp. 22–23). What this investigation may show is that the work-related taxonomies such as Jaffe and Scott (2004), McDonald and Gandz (1992), Hofstede et al. (1993) and Hofstede (2001) may be deliberately narrower in their content; for example they tend to include fewer ethical values (e.g. Protecting the environment, Social justice, Beauty, Security) and fewer values that may be seen by users to be inappropriate within a work context (e.g. Preserving public image, Pleasure, Enjoyment, Self-indulgence, Excitement, Daring, Independence, Choosing own goals, Curious, Inner harmony, Spirituality, Belonging and Privacy). However, given the importance of ethical decision making and employee satisfaction in today's working environment, we favour the open use of a broader values list like Schwartz and Boehnke (2004), as opposed to other narrow and somewhat imposing values list.

There were several items across the lists, that did not have a direct Schwartz and Boehnke (2004) values equivalence, including: seven work items (Diplomacy, Communication, Community, Appearance, Courageous, Challenge and Integrity) from Jaffe and

TABLE II

Detailed comparisons of values items and categories

Values category	Schwartz and Boehmke (2004)	Rokeach (1973)		Jaffe and Scott (2004)		McDonald and Gandz (1992)	Hofstede (1993, 2001)	
	Values item	Values category	Values item	Values category	Values item	Values item	Values dimension	Values item
Universalism			63%		50%	25%		13%
	Equality	Social & societal	**Equality**	Social responsibility	**Fairness**	**Social equality**		Helping societies problems
	World at peace	Social orientation	**A world at peace**	Social responsibility	**Peace**	X		X
	Unity with nature		X		X	X		X
	Wisdom	Delayed gratification	**Wisdom**		X	X		X
	World of beauty	Societal security	**A world of beauty**	Lifestyle	**Aesthetics**	X		X
	Social justice		X		X	X		X
	Broad-minded	Self-expansion	**Broadminded**		X	**Broad-minded-ness**		X
	Protecting the environment		X	Social responsibility	**Environment**	X		X
Benevolence (others oriented)			80%		60%	60%		20%
	Loyal		X	Social responsibility	X	X		X
	Honest	Self-constriction	**Honest**	Social responsibility	**Honesty**	**Moral integrity**		X
	Helpful	Religious morality & societal security	**Helpful**	Relationship	**Helping**	Consideration		**Helping others**
	Responsible	Family security	**Responsible**	Relationship	*Teamwork*		Masculinity & femininity	Cooperation
	Forgiving	Religious morality	**Forgiving**	Social responsibility	**Forgiveness**	**Forgiveness**		X
Conformity			75%		75%	50%		0%
	Politeness	Self-constriction & inner directed	**Polite**	Social responsibility	Tolerance	**Courtesy**		X
	Self-discipline	Delayed gratification & self-constriction	**Self-controlled**	Continuity	**Self-control**	*Formality*	Uncertainty avoidance	*Adherence to company rules Dedication & loyalty*
	Honouring parents and elders		X	Relationship	**Respectful**	X		*Authority can be questioned*
	Obedient	Self-constriction	**Obedient**	Continuity	*Perseverance*	**Obedience** Diligence	Long-term versus short-term orientation	*Clear job duties & responsibilities*
Tradition			0%		20%	0%		20%
	Respectful		X	Continuity	**Tradition**	X	Long-term versus short-term orientation	**Respect for tradition**
	Moderate		X		X	X		X
	Humble		X		X	X		X
	Accepting one's portion In life		X		X	X		X
	Devout		X		X	X		X

TABLE II

continued

Schwartz and Boehnke (2004)		Rokeach (1973)		Jaffe and Scott (2004)		McDonald and Gandz (1992)	Hofstede (1993, 2001)	
Values category	Values item	Values category	Values item	Values category	Values item	Values item	Values dimension	Values item
Security (60%)	Social order		X	Continuity	**Stability** *Consensus*	X (40%)		Minimum conflict (40%)
	National security	Social orientation	**National security**	Relationship	**Security**	X		X
	Reciprocation of favours		X	Continuity	X	**Fairness**	Uncertainty avoidance	*Long-term service rewards*
							Long-term versus short-term orientation	**Reciprocation of greetings, favours & gifts**
	Family security	Family security	**Family security**	Lifestyle	**Family**	X	Masculinity & femininity	*Employment security*
	Clean	Immediate gratification & religious morality	**Clean**	Continuity	**Neatness**	Orderliness		X
Power (25%)	Social power		X	Mastery	**Power**	X (0%)	Power distance	*Acceptable to disagree with manager* (0%)
							Power distance	*Managers have all the answers*
	Wealth	Immediate gratification	A comfortable life	Lifestyle	**Prosperity**	X	Masculinity & femininity	**Opportunities for high earnings**
	Authority		X	Mastery	**Authority**	X	Long-term versus short-term orientation	*Use hierarchical lines*
							Long-term versus short-term orientation	*Knowing influential people*
	Preserving my public image		X		X	X	Long-term versus short-term orientation	**Protecting "Face"**
Achievement (50%)	Ambitious	Family security	**Ambitious**	Mastery	**Advancement**	*Aggressiveness* (0%)	Masculinity & femininity	Advancement (25%)
	Influential		X	Mastery	*Competition*			Competition
	Capable	Self-expansion & family security	**Capable**	Mastery	**Competence**	X	Individual & collectivism	*Use of skills & abilities*
	Successful		X	Mastery	**Achievement**	X		X

TABLE II

continued

Schwartz and Boehnke (2004)		Rokeach (1973)		Jaffe and Scott (2004)		McDonald and Gandz (1992)	Hofstede (1993, 2001)	
Values category	Values item	Values category	Values item	Values category	Values item	Values item	Values dimension	Values item
Hedonism	Pleasure	Immediate gratification	**Pleasure** (67%)	Lifestyle	*Play* (33%)	X (0%)		X (33%)
	Enjoying life		Happiness	Lifestyle	**Pleasure**	*Humour*		*Like work*
					X			*Pursuit of own interests*
			Cheerful					*Congenial & friendly atmosphere*
								Interesting work to do
	Self-indulgent		X		X		Long-term versus short-term orientation	*Openly able to make complaints*
Stimulation	Exciting life	Immediate gratification	**An exciting life** (33%)	Self-development	**Adventure** (33%)	X (0%)	X	X (0%)
	Varied life		X		X	*Experimentation*	Individual & collectivism	*Challenging work*
	Daring		X		X	*Cautiousness*		X
Self-direction	Freedom	Social orientation	**Freedom** (60%)	Self-development	X	**Autonomy** (40%)	Individual & collectivism	Freedom in approach (20%)
	Creativity	Competence & societal security	Imaginative	Self-development	**Creativity** (20%)	**Creativity**		X
	Independent	Competence & other-directed	**Independent**		X	*Initiative* (0%)		X
	Choosing own goals		X		X	X		X
	Curious		X		X	X		X
Uncat' (55% in universalism)	Inner harmony	Delayed gratification	**Inner harmony** (64%)	Self-development	**Inner Harmony** (73%)	X (0%)		X
Uncat' (52% in benevolence)	A spiritual life		X	Self-development	*Spiritual growth*	X		X
Uncat' (61% in security)	Sense of belonging		X	Relationship	**Belonging**	X		X
Uncat' (36% in benevolence)	Meaning in life		A sense of accomplishment		X	X		*Contribution to organisation*
Uncat' (37% in self-direction)	Self-respect	Personal orientation & respect	**Self-respect**	Self-development	**Self-acceptance**	X		X

TABLE II

continued

Schwartz and Boehnke (2004)		Rokeach (1973)		Jaffe and Scott (2004)		McDonald and Gandz (1992)	Hofstede (1993, 2001)	
Values category	Values item	Values category	Values item	Values category	Values item	Values item	Values dimension	Values item
Uncat' (54% in self-direction)	Privacy		X		X	X		X
Uncat' (52% in power)	Social recognition	Respect	Social recognition	Mastery	Recognition	X		Company identity
								Companies technological innovation
							Masculinity & femininity	Job recognition
Uncat' (48% in benevolence)	True friendship	Personal orientation	True friendship	Relationship	Friendship	X		Personal relationships
Uncat' (43% in benevolence)	Mature love	Love	Mature love	X	X	X		X
	Loving	Love	Loving					
Uncat' (53% in security)	Healthy		X		Health	X		X
Uncat' (62% in achievement)	Intelligent	Competence	Intellectual	Mastery	Intellectual status	Logic		X
		Delayed gratification & competence	Logical	Continuity	Rationality			
Learning added to achievement	X		X	Self-development	Personal growth	Development	Individual & collectivism	Training
				Self-development	Knowledge			Day-to-day learning
		Total equivalence (direct and indirect)	52%	Total equivalence (direct and indirect)	54%	Total equivalence (direct and indirect) 20%	Total equivalence (direct and indirect)	21%

Scott (2004); three work values (Adaptability, Economy and Openness) from McDonald and Gandz (1992); Courageous and Salvation from Rokeach (1973); and nine work values (Individual vs. group decision making, Efficiency of department, Work vs. family and leisure time, Fringe benefits, Physical working conditions, Living in a desirable area, Managers and employees help each other, Managers consult with employees and working relationship with boss) from McDonald and Gandz (1992). These values are more context specific descriptions of attitudes that can be classified into or across the 10 motivational types, as practical means of achieving any one of a number of the values ends in Schwartz and Boehnke (2004). This shows that the SVS does not need amending; however, during application, more specific work or life values may, and should, be elicited and universally classified according to their type.

The above analysis has been undertaken at the level of the individual values items and shows the Schwartz and Boehnke (2004) list to be the most comprehensive. Schwartz's list has the advantage of a neutral language and perspective, which would be helpful when dealing with a range of stakeholders, including those without business interests. It is also of interest to make a comparison, where possible at the higher level of value categories or dimensions (which is the focus of Schwartz's work). It was Rokeach (1973), who first proposed that a higher level of a circumplex nature might exist, but his dimensions (from which the categories in Table II have been inferred) were relatively immature and untested. Similarly, those of Jaffe and Scott (2004), whilst presenting an intuitive grouping of lower level items, have little correspondence and less theoretical basis.

Case studies to test the new approach

This section presents an approach, which can help individuals to understand their personal interests, motivations and values in the context of their organisation. It also allows the definition of values statements as a means of communicating an organisation's mission and a starting point from which to define and measure supporting behaviours. A description of the adaptation of the Schwartz values survey can be found in the appendix.

Data collection

The approach to understanding values was trialled in three studies with the adapted SVS instrument. Eighty-four individuals from six industrial research partners volunteered to participate. Each individual participant used a questionnaire to comparatively rate the importance of 56 values 'as a guiding principle in my working life' on a 9-point scale with anchors of −1 ('opposed to my values') and 7 ('of supreme importance'). This individual questionnaire measures people's personal values priorities, not the approved norms of groups, where according to Schwartz (1992) the average individual values profile is 'one way to characterise cultural value priorities'.

Study A aimed to identify a construction partnering consultants organisational values priorities; study B challenged the scope of values statements from five organisations, whilst study C investigated the alignment of values within and among these five organisations. In study A, all 14 employees responses were aggregated and averaged in a collective organisational values plot to reveal alignment and misalignment within the group, where according to Schwartz the average reflects the values of the group while 'individual variations around this average reflects unique personality and experience'. Study B was a simple subjective investigation of the breadth of each of the five organisations values statements. Study C used survey data from 70 individuals from across five organisations, these included responses from: (QS) a cost consultancy firm, $n = 18$; (Arch) an architectural practice, $n = 17$; (Eng) a multi-disciplinary engineering organisation, $n = 16$; (Value) a value management consultancy, $n = 10$; and (Ops) a building maintenance and operations company, $n = 9$. In order to trial the application of the method, centred individuals' values data from study C was aggregated into groups to investigate organisational priorities and identify statistically significant differences across organisations, where averages and standard deviations were used to measure the importance and alignment and a *t*-test was used to measure organisational values differences. Age variability is unlikely to have a significant effect when comparing individual and organisational values priorities, as the average age within each organisational sample is relatively similar: QS = 38 years, Arch = 40 years, Eng = 38 years, Value = 34 years, Ops = 36 years.

Study A: identifying an organisations values priorities

Figure 2 compares the average of two analysis groups (a director group and the whole organisation group). High and low priority values were identified by the organisations choosing thresholds of 1 and −1, respectively. Profiles given to each individual were also compared against the organisational average, to help them understand their own values priorities against those shared by the organisation.

Highly important values to the group were: 'Healthy', 'Honest', 'Successful', 'Enjoying work', 'Loyal', 'Security of friends and family' and 'Learning', whilst the lowest importance values were: 'Social power', 'Respect for tradition', 'Accepting my portion in life', 'Spirituality in work', 'Unity with nature' and 'Moderate'.

The participants agreed that the adapted SVS questionnaire provoked the relative importance of values and helped ensure that the breadth of values concepts was considered. Individuals found that the comparison of their personal profile with the average, illustrated their degree of alignment with the organisation, including where they differed significantly. The directors, who had previously undertaken a brainstorming exercise to define organisational values at a management away day, said they preferred the SVS approach because it engaged all the staff in a structured way, and allowed individual values to be compared and aggregated. For them it was a catalyst for an open dialogue, which helped individuals gain commitment to a set of shared organisational values. This catalytic effect is one of the benefits of using a universal values language and visualisation method,
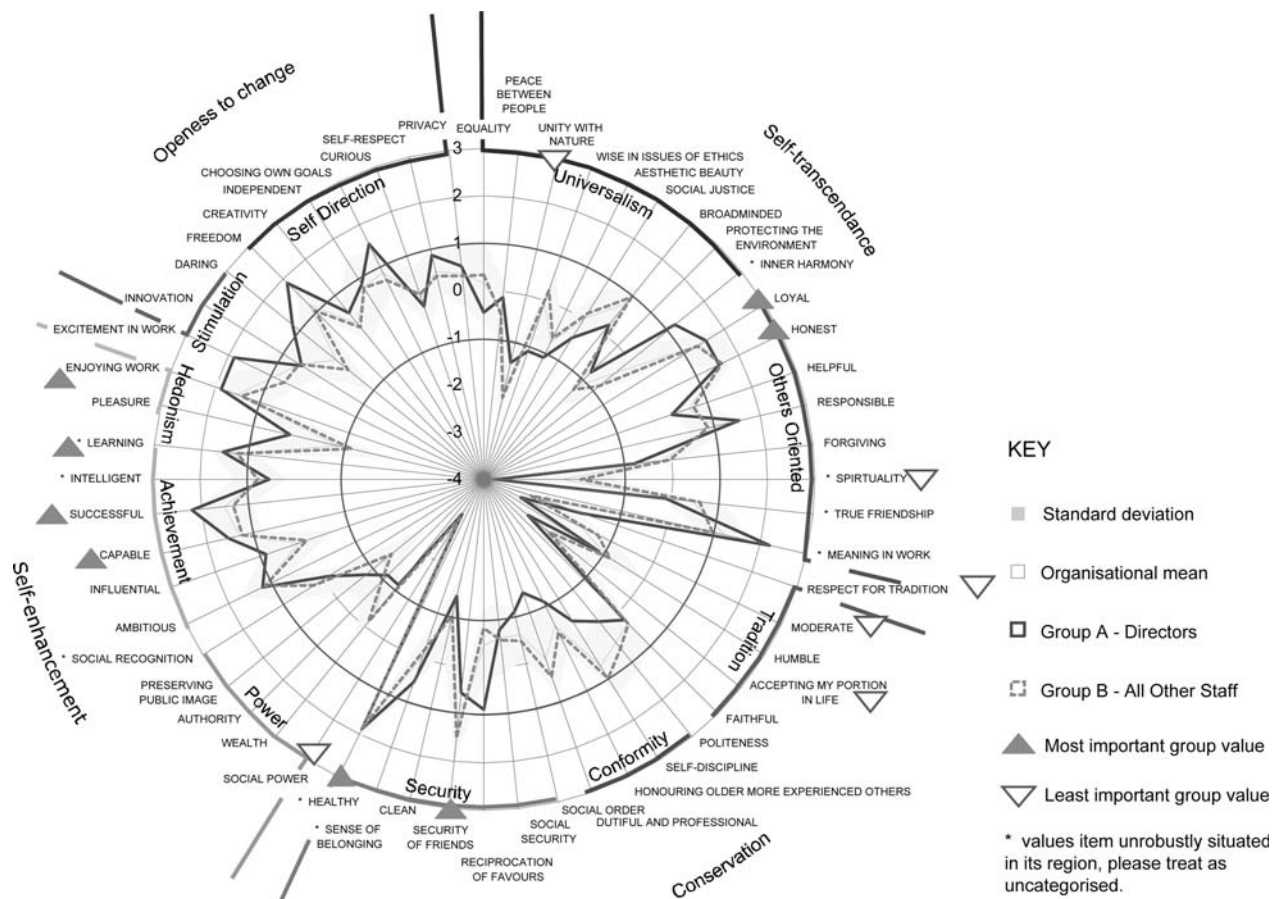
Figure 2. Director values priorities compared to the priorities of all other staff.

unlike most alternative methods that may have less underlying theory to inform discussion.

Study B: scope of existing organisational values

We mapped the values statements (or their equivalent) of five businesses against Schwartz's 10 universal values categories (Table III). This test, while crude in that the statements were subjectively assigned to motivational types by the authors, demonstrated that some statements are limited in breadth, being narrowly defined around achievement and other-oriented goals. This may indicate limitations or bias in the methods used to create them within each organisation, the pervasiveness of the construction industry's current emphasis on principles such as collaboration and performance or a narrow focus on strategic values rather than a broader set of ethical stakeholder perspectives. In a bigger empirical study Webley (1999) reviewed the organisational values within many UK businesses and discovered that there was no clear language to define values and that the most commonly espoused values such as: 'people', 'competitiveness', 'customers', 'quality' and 'productivity' were not values at all, rather strategic goals. This supports the need for a new language of values and methods that can help individuals, business leaders and policy makers to identify priorities values that are relative to one another.

Study C: alignment of values within and between organisations

Table IV shows the average centred values priority within and among organisations. When using an arbitrary threshold for cross-organisational comparison, we can observe differences in values priorities (later this same data are statistically compared using a *t*-test). When looking at the average across all organisations, the top seven centred values (judged to be most important) are: 'Self-respect' (1.49), 'Healthy' (1.41), 'Honest' (1.35), 'Capable' (1.27), 'Meaning in work' (1.25), 'Security of friends and family' (1.24) and 'Responsible' (1.22). The least highly prioritised centred values are: 'Social power' (−2.97), 'Spirituality in work' (−2.61), 'Accepting my portion in life' (−2.48), 'Respect for tradition' (−2.04), 'Unity with nature' (−1.85), 'Moderate' (−1.43) and 'Humble' (−1.31). Four of these least highly prioritised centred values are from the 'tradition' category, which may suggest that it is the least important category to the sampled organisation.

Table V shows the standard deviation between individuals' centred values priorities within organisations. We can observe that some organisations more frequently have aligned values (above an arbitrary 1.0 threshold); for example Ops has 18 highly aligned values, while QS, Value and Arch have 7, 7 and 9 aligned values. This could indicate different cultural paradigms and management

TABLE III

Content of five organisational values statements

Values categories	QS		Arch		Eng		Value		Ops	
Universalism					2 statements	20%	1 statement	5%		
Others oriented (Benevolence)	3 statements	50%			2 statements	20%	2 statements	10%		
Conformity	1 statement	25%	1 statement	10%			4 statements	20%		
Tradition										
Security					1 statement	10%	2 statements	10%		
Power										
Achievement	1 statement	25%	9 statements	90%	2 statements	20%	6 statements	30%	8 statements	100%
Hedonism					1 statement	10%	1 statement	5%		
Stimulation					1 statement	10%	2 statement	10%		
Self-direction					1 statement	10%	2 statement	10%		

TABLE IV

Centred organisational averages

	QS	Arch	Eng	Value	Ops	Ave
Equality	−0.09	0.92	0.13	0.91	0.58	0.49
Peace between people	−0.48	−0.02	−0.37	−0.69	0.03	−0.31
Unity with nature	**−2.31**	**−1.55**	−1.01	**−2.19**	**−2.19**	**−1.85**
Wise in issues of ethics	−0.92	0.86	−0.51	−0.19	−0.64	−0.28
Aesthetic beauty	−0.53	0.22	−0.08	0.11	−0.19	−0.10
Social justice	−0.31	0.39	−0.01	0.31	−0.19	0.04
Broadminded	0.97	0.92	0.70	0.41	1.25	0.85
Protecting the environment	**−1.53**	−0.08	−0.30	−1.19	−0.86	−0.79
Inner harmony	−0.81	0.33	−0.01	−0.09	−0.75	−0.27
Loyal	1.30	0.74	0.63	0.51	0.92	0.82
Honest	**<u>1.74</u>**	1.16	1.49	0.91	1.47	1.35
Helpful	0.85	0.63	0.78	0.11	1.36	0.75
Responsible	**<u>1.69</u>**	1.22	1.28	0.91	1.03	1.22
Forgiving	−0.76	−0.37	−0.80	−0.79	−0.19	−0.58
Spirituality in work	**−2.65**	**−1.84**	**−2.72**	**−2.89**	**−2.97**	**−2.62**
True friendship	0.08	0.39	0.28	0.61	0.36	0.34
Meaning in work	**<u>1.52</u>**	1.16	1.42	1.01	1.14	1.25
Respect for tradition	**−1.98**	**−2.43**	−1.44	**−2.69**	**−1.64**	**−2.04**
Moderate	−0.70	**−1.90**	−0.87	**−1.59**	**−2.08**	−1.43
Humble	−0.81	−1.37	−1.44	−1.49	−1.42	−1.31
Accepting my portion in life	**−2.53**	**−2.55**	**−2.37**	**−3.29**	**−1.64**	**−2.48**
Faithful	0.63	0.10	0.35	0.21	0.25	0.31
Politeness	0.80	0.45	0.99	0.61	1.25	0.82
Self-discipline	0.24	−0.02	1.35	0.61	0.81	0.60
Honouring older more experienced others	−0.81	−1.31	−0.58	−1.49	0.36	−0.77
Dutiful and professional	1.19	0.80	0.99	0.61	0.81	0.88
Social order	−0.31	0.04	−0.15	−0.39	0.03	−0.16
Social security	−0.92	−0.26	−0.58	−0.09	0.14	−0.34
Reciprocation of favours	−0.70	−1.02	**−1.51**	−0.39	−0.86	−0.90
Security of friends and family	1.47	0.92	**<u>2.28</u>**	0.61	0.92	1.24
Clean	−0.09	−0.90	−0.44	−0.59	0.81	−0.24
Sense of belonging	0.30	0.10	−0.44	0.11	0.14	0.04
Healthy	**<u>1.58</u>**	0.92	**<u>2.20</u>**	1.01	1.36	1.41
Social power	**−2.87**	**−3.08**	**−3.22**	**−2.69**	**−2.97**	**−2.97**
Wealth	0.24	−0.73	−0.01	0.51	−0.19	−0.04
Authority	−0.15	−0.61	−0.80	0.11	−0.64	−0.42
Preserving public image	**−1.65**	**−1.67**	−0.80	−0.09	−0.53	−0.95
Social recognition	−0.37	−0.20	0.42	0.61	0.47	0.19
Ambitious	1.19	0.69	0.13	1.11	0.81	0.78
Influential	0.13	−0.20	−0.72	0.21	−0.08	−0.13
Capable	1.13	1.10	**<u>1.56</u>**	1.21	1.36	1.27
Successful	1.02	1.10	0.92	**<u>1.51</u>**	0.69	1.05
Intelligent	0.69	1.04	0.99	0.91	1.36	1.00
Learning	1.08	1.04	1.20	0.41	1.14	0.97
Pleasure	−0.92	−0.84	−1.01	−0.29	**−1.86**	−0.99
Enjoying work	**<u>1.63</u>**	1.39	0.99	0.81	1.14	1.19

TABLE IV

continued

	QS	Arch	Eng	Value	Ops	Ave
Excitement in work	1.47	1.04	0.56	1.01	0.25	0.86
Innovation	1.24	1.39	0.92	1.01	0.58	1.03
Daring	−0.65	−0.78	−1.37	−0.39	−0.97	−0.83
Freedom	0.13	0.10	−0.22	1.11	0.03	0.23
Creativity	0.69	1.10	−0.01	0.81	0.03	0.52
Independent	1.02	−0.08	0.49	0.61	−0.31	0.35
Choosing own goals	−0.59	−0.37	−0.65	0.01	0.69	−0.18
Curious	0.08	0.98	0.13	−0.09	−0.75	0.07
Self-respect	1.35	**_1.51_**	1.42	**_1.81_**	1.36	1.49
Privacy	−0.98	−0.55	−0.15	0.31	−0.97	−0.47
High Importance (greater than **1.5**)	5	1	3	2	0	0
Low Importance (less than **−1.5**)	7	7	4	6	7	5

The table shows values priorities within and between organisations, where bold represents low importance and underlined bold represents high importance.

approaches for example QS, Value and Arch could have decentralised and person-centred cultures, while Ops may be a strong leadership-centred organisation with a clearly understood ethos and enrolment process. Across organisations, the most consistently aligned values are 'Responsible' (0.83), 'Successful' (0.86), 'Capable' (0.89), 'Enjoying work' (0.90), 'Helpful' (0.91), 'Honest' (0.97), 'Loyal' (0.98). The most misaligned values are: 'Accepting my portion in life' (1.89), 'Social power' (1.83), 'Pleasure' (1.77), 'Preserving public image' (1.76), 'Humble' (1.76), 'Moderate' (1.72) and 'Honouring older more experienced others' (1.72). What is perhaps most interesting, particularly with regards to building strong multi-organisational project cultures or understanding uncertainty between project participants, is to observe values that are both strongly aligned and strongly misaligned by different organisations, for example: 'Social Justice' (aligned within Ops (0.93), while misaligned within Value (1.70); 'Broadminded' (aligned within Ops (0.92) and Arch (0.99), however, misaligned within Value (1.74); 'Respect for tradition' (aligned within Ops (0.83), however, misaligned within Value (1.81) and Arch (1.72) and Reciprocation of favours (aligned within Ops, however, misaligned within Eng).

Table VI shows that individuals are more likely to judge values as very important (48.6%) than not important (8.1%), with 43.2% judging them moderately important. The frequency analysis in Table VI supports the average and standard deviation in Tables IV and V.

An independent-sample t-test was conducted to measure the equality of means between organisations (at a 0.05 significance level) to determine whether the values priorities of individuals in the five organisations are significantly different. The test results contained in Table VII, two-tail hypothesis was that there would be significantly different values priorities among organisations. Table VII contains the statistical differences among organisations.

This analysis provided some interesting results when looking at the organisational values priorities and role of specific organisations. For example (Arch) the architectural practice, subscribes more highly to values such as 'Aesthetics', 'Protecting the environment', 'Spirituality in work' and 'Creativity' than any other; while (Ops) the building maintenance/operation company, places greater emphasis on values such as 'Helpful', 'Honouring older more experienced others', 'Clean' and 'Choosing own goals'. These findings, while providing some insight to the specific values of these occupations, require further empirical work. It starts to reveal the extent of differences among organisations that can be found using a universal values measurement technique

TABLE V

Centred organisational standard deviation

	QS	Arch	Eng	Value	Ops	Ave
Equality	1.35	1.31	1.37	1.21	1.11	1.27
Peace between people	1.38	1.29	**1.81**	**2.56**	1.11	1.63
Unity with nature	1.10	1.46	1.63	1.67	1.33	1.44
Wise in issues of ethics	1.62	<u>**0.79**</u>	1.24	1.47	1.03	1.23
Aesthetic beauty	1.41	1.20	1.38	1.46	<u>**0.86**</u>	1.26
Social justice	1.40	1.02	1.12	**1.70**	<u>0.93</u>	1.23
Broadminded	1.13	<u>**0.99**</u>	1.60	**1.74**	<u>0.92</u>	1.28
Protecting the environment	1.40	1.02	1.22	1.40	1.22	1.25
Inner harmony	1.55	1.08	1.59	1.25	1.59	1.41
Loyal	1.21	<u>**0.61**</u>	1.25	1.01	<u>**0.85**</u>	<u>**0.99**</u>
Honest	1.06	1.03	<u>**0.65**</u>	1.36	<u>0.73</u>	<u>0.97</u>
Helpful	1.13	<u>**0.74**</u>	<u>0.95</u>	1.17	<u>0.57</u>	<u>0.91</u>
Responsible	<u>**0.97**</u>	1.03	<u>**0.64**</u>	<u>0.68</u>	<u>0.81</u>	<u>0.83</u>
Forgiving	1.29	1.02	**1.73**	**1.75**	1.41	1.44
Spirituality in work	1.52	1.49	1.47	1.51	1.66	1.53
True friendship	1.63	1.61	1.43	1.58	**1.99**	1.65
Meaning in work	<u>**0.96**</u>	1.29	<u>**0.83**</u>	1.23	1.01	1.06
Respect for tradition	1.69	**1.72**	1.34	**1.81**	<u>0.83</u>	1.48
Moderate	**1.75**	1.29	1.05	**1.99**	**2.51**	**1.72**
Humble	1.43	1.22	**1.84**	**2.46**	**1.86**	**1.76**
Accepting my portion in life	1.58	1.68	**2.07**	**1.97**	**2.17**	**1.89**
Faithful	1.16	1.42	1.34	1.23	1.27	1.28
Politeness	1.48	1.47	<u>**0.98**</u>	<u>0.88</u>	<u>0.77</u>	1.12
Self-discipline	1.56	1.33	1.22	1.40	<u>0.81</u>	1.26
Honouring older more experienced others	1.49	**1.77**	**2.04**	**2.24**	1.05	**1.72**
Dutiful and professional	1.21	1.53	1.20	**1.92**	1.55	1.48
Social order	1.30	1.45	1.02	1.26	1.21	1.25
Social security	1.54	1.17	1.29	1.26	1.14	1.28
Reciprocation of favours	1.48	1.57	**1.74**	1.51	<u>0.47</u>	1.35
Security of friends and family	1.31	1.22	1.61	1.65	1.18	1.40
Clean	1.35	1.44	1.22	1.14	1.22	1.27
Sense of belonging	1.41	1.37	1.24	1.12	1.20	1.27
Healthy	1.22	1.41	1.35	1.01	1.31	1.26
Social power	**1.78**	**1.80**	1.55	1.61	**2.41**	**1.83**
Wealth	1.27	1.60	**1.71**	1.20	1.21	1.40
Authority	1.37	1.06	1.17	1.32	1.05	1.19
Preserving public image	**1.80**	**1.79**	1.16	**2.01**	**2.04**	**1.76**
Social recognition	1.38	<u>**0.99**</u>	1.08	1.14	1.51	1.22
Ambitious	1.03	1.07	1.42	1.13	1.09	1.15
Influential	1.15	1.26	1.59	1.37	<u>0.76</u>	1.23
Capable	<u>**0.90**</u>	1.26	<u>**0.89**</u>	<u>0.75</u>	<u>0.66</u>	<u>0.89</u>
Successful	<u>**0.92**</u>	<u>0.98</u>	<u>**0.71**</u>	<u>0.87</u>	<u>0.84</u>	<u>0.87</u>
Intelligent	1.55	1.13	<u>**0.93**</u>	1.03	<u>0.67</u>	1.06
Learning	<u>**0.76**</u>	1.31	<u>**0.98**</u>	1.35	<u>0.64</u>	1.01
Pleasure	**2.00**	**1.73**	1.69	1.30	**2.16**	**1.77**
Enjoying work	1.27	<u>**0.85**</u>	<u>**0.98**</u>	1.04	<u>0.33</u>	<u>0.90</u>

TABLE V

continued

	QS	Arch	Eng	Value	Ops	Ave
Excitement in work	**0.83**	1.33	1.23	**0.96**	1.42	1.15
Innovation	**0.96**	**0.90**	**0.93**	1.17	1.25	1.04
Daring	1.23	1.25	1.25	**2.10**	1.62	1.49
Freedom	1.43	1.58	1.16	**0.85**	1.09	1.22
Creativity	1.42	**0.86**	1.12	1.67	1.06	1.23
Independent	1.08	1.34	1.36	1.60	1.09	1.30
Choosing own goals	1.22	1.62	1.59	1.69	**0.54**	1.33
Curious	1.20	1.57	1.08	1.34	1.21	1.28
Self–respect	1.35	1.03	1.19	**0.91**	1.12	1.12
Privacy	1.25	**1.70**	1.32	1.34	1.51	1.42
High Alignment (less than **1.0)**	**7**	**9**	**11**	**7**	**18**	**16**
Low Alignment (More than **1.7**)	**4**	**6**	**7**	**12**	**7**	**2**

The table shows values alignment within organisations, where bold represents low alignment and underlined bold represents high alignment.

TABLE VI

Frequency across organisations

	Not important (−1,0,1)	Moderately important (2,3,4)	Very important (5,6,7)
Equality	2	29	39
Peace between people	3	40	27
Unity with nature	23	38	9
Wise in issues of ethics	3	34	27
Aesthetic beauty	2	43	25
Social justice	1	40	29
Broadminded	2	17	51
Protecting the environment	8	46	16
Inner harmony	4	37	29
Loyal	0	23	47
Honest	0	13	57
Helpful	0	23	47
Responsible	0	11	59
Forgiving	5	44	21
Spirituality in work	35	30	5
True friendship	4	28	38
Meaning in work	0	9	61
Respect for tradition	27	39	4
Moderate	14	46	10
Humble	13	48	9
Accepting my portion in life	30	35	5
Faithful	4	30	36

TABLE VI

continued

	Not important (−1,0,1)	Moderately important (2,3,4)	Very important (5,6,7)
Politeness	1	21	48
Self-discipline	1	24	45
Honouring older more experienced others	9	42	19
Dutiful and professional	2	17	51
Social order	3	41	26
Social security	3	44	23
Reciprocation of favours	9	49	12
Security of friends and family	1	17	52
Clean	4	40	26
Sense of belonging	3	37	30
Healthy	1	15	54
Social power	40	27	3
Wealth	1	15	54
Authority	4	44	22
Preserving public image	13	40	17
Social recognition	2	36	32
Ambitious	1	22	47
Influential	5	33	32
Capable	0	11	59
Successful	0	20	50
Intelligent	1	16	53
Learning	0	11	59
Pleasure	11	42	17
Enjoying work	0	11	59
Excitement in work	1	22	47
Innovation	0	15	55
Daring	6	49	15
Freedom	2	35	33
Creativity	1	29	40
Independent	0	34	36
Choosing own goals	2	42	26
Curious	1	38	31
Self-respect	0	9	61
Privacy	9	41	20
Percentage ratio of total	8.1%	43.2%	48.6%

The table shows the frequency with which values are scored as either not important, moderately important and very important across all organisational samples.

(e.g. 22 out of 56 values items were significant dif–ferentiators across these five organisations). It also showed that there was statistical misalignment between (QS) and (Arch) on 'Aesthetics' and 'Protecting the environment', between (Arch) and (Ops) on 'Clean', between (Eng) and (Arch) on 'Creativity' and between (Value) and (Ops) on Helpful, and that there was statistical alignment be–tween (Arch) and (Eng) on 'Protecting the envi–ronment'. This may show that such organisations have more similarities than differences when using universal values, and hence demonstrate the

TABLE VII

Statistical value differences among five organisations

Organisation	n Individuals	Significantly less important values	Significantly more important values
QS	18	**Equality** ($t = -2.091$, df = 68, ***p = 0.040***, two-tailed. Where results had equal variance and a mean difference of -0.741. **Aesthetics** ($t = -2.419$, df = 68, ***p = 0.018***, two-tailed. Where results had equal variance and a mean difference of -0.901) **Protecting the environment** ($t = -3.089$, df = 68, ***p = 0.003***, two-tailed. Where results had equal variance and a mean difference of -1.089) **Inner harmony** ($t = -2.117$, df = 68, ***p = 0.038***, two-tailed. Where results had equal variance and a mean difference of -0.829)	**Loyal** ($t = 2.260$, df = 68, ***p = 0.027***, two-tailed. Where results had equal variance and a mean difference of 0.629) **Responsible** ($t = 2.380$, df = 68, ***p = 0.020***, two-tailed. Where results had equal variance and a mean difference of 0.556) **Excitement in work** ($t = 2.205$, df = 68, ***p = 0.031***, two-tailed. Where results had equal variance and a mean difference of 0.699) **Independent** ($t = 2.566$, df = 68, ***p = 0.012***, two-tailed. Where results had equal variance and a mean difference of 0.909)
Arch	17	**Clean** ($t = -2.100$, df = 68, ***p = 0.039***, two-tailed. Where results had equal variance and a mean difference of -0.781) **Wealth** ($t = -2.120$, df = 68, ***p = 0.038***, two-tailed. Where results had equal variance and a mean difference of -0.849)	**Aesthetics** ($t = 5.481$, df = 48.647, ***p = 0.000***, two-tailed. Where results had equal variance and a mean difference of 1.475) **Protecting the environment** ($t = 2.311$, df = 68, ***p = 0.024***, two-tailed. Where results had equal variance and a mean difference of 0.854) **Spirituality in work** ($t = 2.075$, df = 68, ***p = 0.042***, two-tailed. Where results had equal variance and a mean difference of 0.863) **Creativity** ($t = 2.662$, df = 43.154, ***p = 0.011***, two-tailed. Where results had equal variance and a mean difference of 0.748). Although this value is not normally distributed (Shapiro-Wilk Sig. 0.05)
Eng	16	**Ambitious** ($t = -2.363$, df = 68, ***p = 0.021***, two-tailed. Where results had equal variance and a mean difference of -0.774) **Creativity** ($t = -2.430$, df = 68, ***p = 0.018***, two-tailed. Where results had equal variance and a mean difference of -0.864)	**Unity with nature** ($t = 3.269$, df = 68, ***p = 0.002***, two-tailed. Where results had equal variance and a mean difference of 1.333) **Protecting the environment** ($t = 2.010$, df = 68, ***p = 0.048***, two-tailed. Where results had equal variance and a mean difference of 0.765) **Self-discipline** ($t = 2.428$, df = 68, ***p = 0.018***, two-tailed. Where results had equal variance and a mean difference of 0.918)

TABLE VII

continued

Organisation	*n* Individuals	Significantly less important values	Significantly more important values
Value	10	**Helpful** (*t* = −2.225, df = 68, ***p* = 0.029**, two-tailed. Where results had equal variance and a mean difference of −0.726) **Learning** (*t* = −2.108, df = 68, ***p* = 0.039**, two-tailed. Where results had equal variance and a mean difference of −0.743)	**Freedom** (*t* = 2.523, df = 68, ***p* = 0.014**, two-tailed. Where results had equal variance and a mean difference of 1.107) **Privacy** (*t* = 2.113, df = 68, ***p* = 0.038**, two-tailed. Where results had equal variance and a mean difference of 1.024). Although this value is not normally distributed (Shapiro–Wilk Sig. 0.038)
Ops	9	**Curious** (*t* = −2.314, df = 68, ***p* = 0.024**, two-tailed. Where results had equal variance and a mean difference of −1.094)	**Helpful** (*t* = 2.109, df = 68, ***p* = 0.039**, two-tailed. Where results had equal variance and a mean difference of 0.722) **Honouring older more experienced others** (*t* = 2.163, df = 68, ***p* = 0.034**, two-tailed. Where results had equal variance and a mean difference of 1.362) **Clean** (*t* = 2.749, df = 68, ***p* = 0.008**, two-tailed. Where results had equal variance and a mean difference of 1.282) **Choosing own goals** (*t* = 4.456, df = 31.322, ***p* = 0.000**, two-tailed. Where results had equal variance and a mean difference of 1.170)

importance of using grounded and unstructured values elicitation methods along side universal techniques, as well as the extension to consider organisation-specific behaviours.

Conclusion

The growing number of government and industry measures of social value and quality make it clear that both public and private sector construction clients are calling for the demonstration of performance that goes beyond time, cost and technical quality. These demands suggest the need for tools to facilitate a dialogue of value and human values to help define people's priorities and integrate them into construction processes and products. Values theory and practice has been presented to support this need. The results of three case studies demonstrate the unique application of this existing approach within construction to create individual and organisational profiles of values priorities that directly reflect reality.

Further research is needed to understand how values definition processes can help individuals understand values trade-offs, reach consensus, avoid conflict, make good value judgements in day-to-day situations, become more productive and understand value-related attitudes.

Appendix

The approach to understanding values presented in this article is based on that of Schwartz (1992) and Schwartz and Boehnke (2004), which stands apart from all other values surveys because, as we have previously explained, it provides a well-validated theory of human values, which is structured into 10 basic motivational orientations. As we have seen, from its comparison to alternative lists, Schwartz provides the most complete list available that enables values to be comparatively scored relative to one another, to 'measure people's value priorities' (Schwartz, 1992).

In order to apply this questionnaire within a construction context, some amendments have been made to the 56 values questions and the analysis method, while still insuring its conceptual completeness. The language of 26 Schwartz values have been slightly changed to make them more appropriate for a construction audience by relating them to work rather than personal life. Two data sources were mapped to the Schwartz questionnaire to inform this adaptation and understand the multi-level, multi-concept nature of these other instruments. These were a construction industry set of 130 Value Drivers, who had been classified into 14 categories by CE (2003) and the Hofstede Value Survey Module (VSM) (Hofstede, 2001; Hofstede et al., 1993). As a result, there have been significant language changes to seven values items, where four of these were to the values statement itself, rather than its defining description: 'Wisdom' (adapted to 'Wise in issues of ethics'), 'Social justice', 'True friendship', 'Obedient (adapted to 'Dutiful and professional'), 'National security' (adapted to 'Social security'), 'A world of beauty' (adapted to 'Aesthetic beauty') and 'Daring'. In order to de-emphasis values largely irrelevant to work, 'Self-indulgence' was incorporated into 'Pleasure', while 'Mature love' has been incorporated into 'True friendship'. Learning' has been added and incorporated into the Achievement values category.

In order to understand how intuitive the Schwartz category labels were for the construction industry, 10 construction professionals in three subgroups reviewed the adapted SVS that had been categorised into the 10 Schwartz motivational types, however, not named. These professionals then

derived their own category name by looking at the values items that made up a grouping. This investigation demonstrated that the terminology used by Schwartz and the groups' own categories were very similar in approximately 40% of the cases and that nine out of the 10 category labels would be readily understood by construction industry practitioners, however, it was agreed that Benevolence should be simplified to Others Oriented.

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