DEVELOPMENT OF A VALUES-BASED FRAMEWORK FOR PREDICTING PROJECT SUSTAINABILITY PERFORMANCE

Mohammad Rickaby[1] and Jacqueline Glass[1]

[1] Centre for Innovative and Collaborative Construction Engineering, Loughborough University, Loughborough, LE11 3TU, UK

ABSTRACT

Construction projects are subject to scrutiny in terms of sustainability performance, for example, on environmental issues and social matters. However, the reasons which underpin why one project outperforms another do not seem to be well-articulated in literature – possibly because projects are deemed to be unique and hence incomparable. For instance, decisions which lead to better or worse sustainability performance are arguably determined by the individual values of actors, as played out in a project context. If values are a predictor of attitudes and behaviours of individuals, then it is feasible that they also guide behaviour at the organisational (and project) level. Drawing on values theory, a preliminary framework has been developed to capture and assess individuals' personal values, within a project (organisational) context, to understand the likely implications on sustainability performance. The framework, developed from a literature review, aims to create a means by which it is possible to predict the sustainability performance of a project, and improve this through approaches that are more empathetic to individuals' values (for example, by configuring and managing teams differently). By so doing, this may help project teams to achieve higher standards of environmental and social performance in practice.

INTRODUCTION

Construction projects are widely associated with complexities and challenges, with complicated processes and dynamic organisational structures (Aloini et al., 2012). Sustainability related challenges, particularly around social and environmental issues have attracted increasing levels of attention and scrutiny (Brooks and Rich, 2016), making the topic of strategic importance for the construction industry. Research has addressed sustainability-related concerns from different perspectives, but of particular interest is the sustainability performance of large infrastructure projects, due to the potential scale of their social and environmental impact.

Existing research has made strong connections between sustainability and values, arguing that the notion of sustainability resembles a set of values (Ratner, 2004). As such, enacting sustainability is arguably influenced by the individual values of actors working within projects and organisations. However, there is a lack of research from the construction industry perspective. That said, Zhang et al. (2008) made a compelling case for the role of collective organisational values in construction consultancies, yet this research trajectory remains under-explored across other types of organisations, including large construction projects. There is also a gap in knowledge about the underpinning human and organisational values present within delivery teams of major project coalitions. Furthermore, the reasons that influence project performance around sustainability in construction projects have not been

identified. Therefore, as part of an ongoing research programme to address these gaps, this paper presents a framework that aims to help predict sustainability performance, in the context of construction projects in the UK. The findings reported here will be followed by two phases of primary data collection from a case study project in the infrastructure sector.

METHODOLOGY

This study is based on secondary data and deployed a systematic literature review methodology for the selection, extraction, analysis and synthesis of data (Tranfield et al., 2003). The main aim is to develop a preliminary framework that captures and assesses individuals' personal values, within project and organisational contexts, to understand the likely implications on sustainability performance. The review used a systematic search for articles related to values theory and their application in project and organisational contexts. This included a particular focus on the relationship between personal values and organisational values and their likely impact on various organisational phenomena that are likely to impact sustainability performance (e.g. organisational commitment). As search strings, combinations of different terms were used to search databases, such as Google Scholar, Scopus, etc. This included 'personal (or individual / human) values + organisational values', and 'values theory'. Searches were repeated with the intersection of different terms such as 'sustainability', 'Schwartz', 'values alignment', 'pro-environmental behavior' and 'construction'. As the topic of values and its relationship with sustainability in construction project environments is still an emerging field of study, this study considered articles published in peer-reviewed journals, irrespective of their impact factor. As part of the review, books and conference proceedings were also considered important in developing an in-depth understanding. Construction Management & Economics and the Journal of Business Ethics were among the most useful journals. In addition, given the underpinning nature of values, a number of psychology journals were highly-relevant.

INHERENT FEATURES OF CONSTRUCTION PROJECTS

Construction projects are one-off, complex and dynamic endeavours (Mills, 2001). Low productivity, high fragmentation, conflicts, cost and time overruns characterise the construction industry (Aloini et al., 2012), and the temporary and short-term nature of projects is considered an intrinsic feature (Green et al., 2004). In large infrastructure projects (such as roads and rails), multiple organisations form a multidisciplinary organization for a limited time to execute unique and bespoke projects (Pathirage et al., 2007). The diverse interests of stakeholders, and the dynamic organisational structures associated with such projects generate greater levels of risks and uncertainties, which are likely to hinder project performance. Fellows and Liu (2012) suggest that such issues are 'magnified on engineering construction projects due to their size, complexity, financing, duration and execution by many organizations, often from several diverse countries' (p. 653). Much of these complexities are formidable, due to complicated processes and the environments in which projects are executed. The increasing magnitude and frequency of the problems encountered in construction projects, particularly around sustainability, has prompted criticism and scrutiny in recent years (Brooks and Rich, 2016). Due to their significant environmental, economic and social impact, sustainability performance is regarded as a most pressing concern. Despite the inherent challenges, there are increasing expectations to deliver yet more complex projects in line with various policies and regulations, hence the industry needs systematic and

consistent approaches to address any underlying factors that might hinder project performance. Understanding the nature of construction projects constitutes an important step towards and, in an attempt to address sustainability-related concerns, this paper provides a fresh perspective in exploring the underpinning factors that are likely to influence the sustainability performance of construction projects, through the lens of values theory.

OPERATIONALISING SUSTAINABILITY

Assessing and measuring sustainability performance around environmental issues and social matters has received increasing levels of attention in recent years, where various environmental assessment tools have been deployed to quantify sustainability through criteria scoring (Ding, 2008; Cole and Valdebenito, 2013). The most recognised environmental assessment tools in use worldwide are BREEAM (UK), CASBEE (Japan), LEED (USA), and Green Star (Australia) (see Ding 2008 for an overview). BREEAM and LEED are however considered to be 'two of the most mature and widely internationally recognized systems' (Cole and Valdebenito, 2013: p. 665). Whilst such tools are increasingly used in the construction industry to raise the sustainability standards of buildings (Cole, 2005), there remains a notable gap in knowledge around the underpinning reasons that explain why different construction projects outperform others. This illustrates that there may be more to operationalising sustainability than just using assessment tools, regardless of their comprehensiveness and objectivity.

The term 'sustainable development' originated from the report of the World Commission on Environment and Development (WCED) – 'our common future' in 1987. The report defined sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987: p. 41), however, operationalising this is a challenge. Ratner (2004) outlined three distinct approaches which are: technical consensus (development of tools and techniques that integrate social, environmental and economic factors); ethical consensus (development of a single framework of action – 'a unifying ethic that serves as a guide for navigating through social conflict') (p. 60); and dialogue of values. Holdgate (1996: p. 138) argued that 'sustainability is not a technical problem to be solved, but a vision of the future focusing our attention on a set of values, and moral and ethical principles to guide our actions.' Therefore, understanding sustainability as a dialogue of values (where technical and ethical consensus are needed, but deemed inadequate for reaching unified decisions) places an emphasis on stakeholders, their dynamic processes of communication, and the governance that structures those processes (Ratner, 2004). This illustrates the role of values and their relationship with sustainability, yet there is a lack of research on the role of individuals as change agents for sustainability (Visser and Crane, 2010). This may explain why some projects perform better than others, particularly when there is consensus that sustainability (as a concept) is underpinned and driven by values (e.g. Florea et al., 2012; Ratner, 2004).
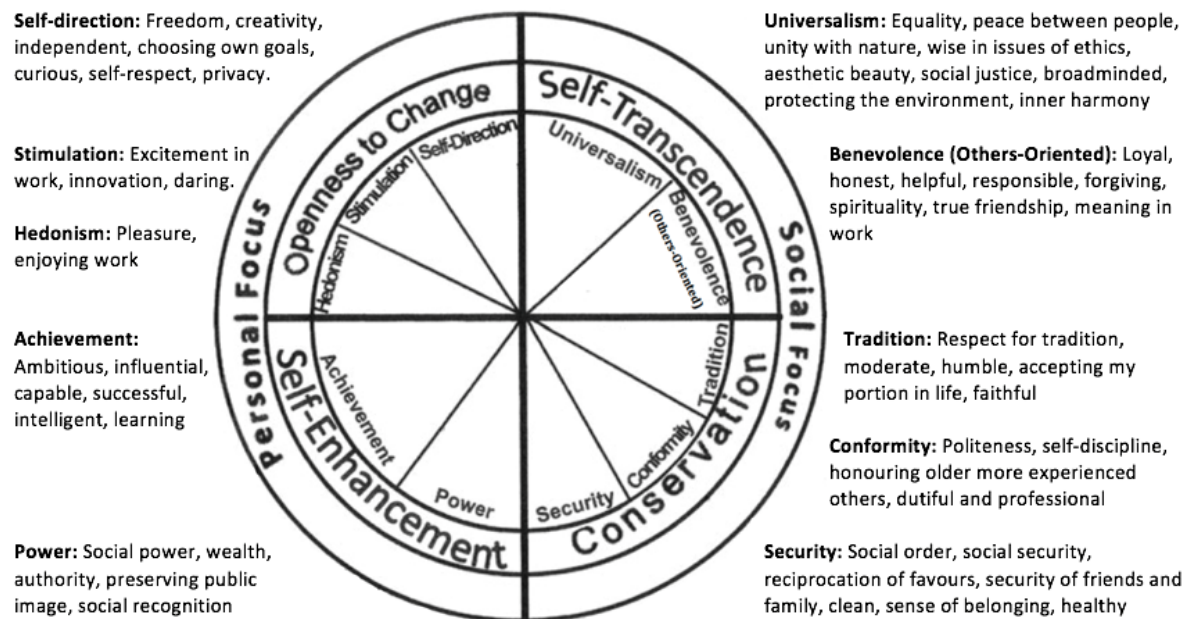
THE NATURE OF HUMAN VALUES

Values are commonly viewed as deeply held views that act as guiding principles for individuals and organisations. They are believed to underpin culture, decision-making and behaviour, and a driving force in inspiring, driving and sustaining organisational change. The increased interest in the nature of human values has resulted in numerous conceptualizations of values

(Maio et al., 2006; Rohan, 2000), and as a result, 'values' is a contested concept. However, a central theme expresses personal values as relatively stable standards in one's life, which influence and underpin the formation of behaviour (Fritzsche and Oz, 2007; Rokeach, 1973; Zhang et al., 2008), by: 'providing criteria for decision-making' (Liedtka, 1989: p. 806). Moreover, values form an essential basis for human perceptions and reactions (Rohan, 2000; Van Quaquebeke et al., 2014). Therefore, in essence, values are a tool to facilitate the understanding of human behaviour and underlying motivation. While they are inherent only to individuals, they are also shared socially. Values can therefore be defined as: 'conceptions of the desirable that guide the way social actors select actions, evaluate people and events, and explain their actions and evaluations' (Schwartz, 1999: p. 24).

Values – theoretical perspective

Values research has predominantly taken a descriptive approach to understand the level of importance different people associate with values. This has been limited to ranking or grouping of values with less focus on the inherent structure of value systems which explore the relationship between values (Van Quaquebeke, et al., 2014). There have been some notable attempts to address this, such as Quinn's (1988) 'competing values framework'. Contemporary organisational research has however relied on Schwartz's (1992) value theory, articulated in a two-dimensional circular structure to portray the total pattern of relations of conflicts and congruity among ten types of values, which are represented by 56 value items (see Figure 1).

Self-direction: Freedom, creativity, independent, choosing own goals, curious, self-respect, privacy.

Stimulation: Excitement in work, innovation, daring.

Hedonism: Pleasure, enjoying work

Achievement: Ambitious, influential, capable, successful, intelligent, learning

Power: Social power, wealth, authority, preserving public image, social recognition

Universalism: Equality, peace between people, unity with nature, wise in issues of ethics, aesthetic beauty, social justice, broadminded, protecting the environment, inner harmony

Benevolence (Others-Oriented): Loyal, honest, helpful, responsible, forgiving, spirituality, true friendship, meaning in work

Tradition: Respect for tradition, moderate, humble, accepting my portion in life, faithful

Conformity: Politeness, self-discipline, honouring older more experienced others, dutiful and professional

Security: Social order, social security, reciprocation of favours, security of friends and family, clean, sense of belonging, healthy

Figure 1: Theoretical model of values (adapted from Sortheix and Schwartz, 2017)

Schwartz (1992) theorised that basic values are organised into a coherent system that underlines and can help explain individual decision making, attitudes, and behaviour. He outlined ten broad value types in accordance to the motivational goal they each express, which can trigger different attitudes and subsequently behaviours. Schwartz (1992) maintained that values express one or more of the three universal requirements of human existence: individuals' needs as biological organisms; the necessity of coordinated social interaction; and groups' welfare and survival needs. Bourne and Jenkins (2013) argued that

differences in the relative importance placed on these universal requirements indicate that they hold potential for conflict within and between individuals and groups, as values are essentially based upon potentially conflicting human requirements, which are capable of change. In other words, some values may be very important to an individual, but less so to another, hence values can provide important insights on individuals' likely attitudes and behaviours in relation to various personal and organisational aspects.

Schwartz (1992) argued his key contribution was that: 'the instrument developed to measure all the value types can be used to test hypotheses that relate value priorities to their antecedents and consequences'. Furthermore, 'the theory of value structures can stimulate the generation of hypotheses about how the whole integrated system of value priorities relates to background, attitude, and behaviour variables' (p. 60). Underpinned by his theory, Schwartz's (1992) Values Survey (SVS) is a comprehensive instrument to capture and assess individual's values. It is widely acknowledged as a robust instrument to measure the relative importance people associate with a set of universal values in different contexts. For example, after some amendments, Mills et al. (2009) demonstrated its applicability in the construction industry.

So, on the basis of the above, and in the context of a particular project, sustainability performance is arguably determined by the 'individual values' of stakeholders (Brooks and Rich, 2016). If such values are indeed a determinant and predictor of attitudes and behaviours (Fritzsche and Oz, 2007; Schwartz, 1992) (because they serve as relatively stable standards in ones' life) (Rokeach, 1973), then it is possible that they also guide behaviour at the organizational and project level (Edwards and Cable, 2009). Hence, the ability to capture and assess individuals' values working on a shared endeavour could provide valuable insights. Furthermore, this would arguably provide the means to predict the likely behaviours or tendencies of individuals or groups of individuals towards different situations. For instance, if caring for the environment was not an important consideration for an individual, they would not show much consideration for sustainability, because they may not endorse nor subscribe to the values associated with sustainable development.

Such assessments and observations can be made possible through the use of the SVS instrument. Indeed, empirical studies deploying SVS have confirmed that environmentally-friendly behaviours (or sustainability in a broader sense) is related to certain values (Karp, 1996; Schultz and Zelezny, 1999; Thøgersen and Ölander, 2002). Self-Transcendence values, particularly Universalism is strongly associated with sustainability, whilst Self-Enhancement is negatively associated with sustainability. In other words, the more important values classified near the Self-Transcendence segment of the value structure are, and (to a lower extent) the less important values classified near the Self-Enhancement segment are, the higher propensity to collective (environment-friendly) action (Karp, 1996; Thøgersen and Ölander, 2002). Such observations are likely to highlight why different individuals or teams behave in the way they do and help understand how this is likely to influence future behaviours and actions, which may in turn influence the sustainability performance of projects.

WHAT ARE ORGANISATIONAL VALUES?

Organisational values have been identified as the most important feature of an organization (Rokeach, 1979). They are 'the beliefs and attitudes that permeate the entire group, defining

what is considered of benefit to all' (Williams, 2002: p. 220). However, organisations alone do not possess values. It is the collective personal values of the employees within organisations that underpin the formation of organisational values (Meglino and Ravlin, 1998). Organisational values are the collective beliefs that give organisations their identity, help differentiate organisations and describe what an organisation stands for and takes pride in (Meglino and Ravlin, 1998; Rokeach, 1979). Furthermore, they have been found to provide a bonding mechanism between organisational members, creating environments that facilitate work toward common goals, by fostering and encouraging coordinated actions and behaviors (Williams, 2002). Therefore, 'values have a long reach and a wide span of influence on critical processes and characteristics in organizations' (Bourne and Jenkins, 2013: p. 496).

There is therefore a clear distinction between personal values and organizational values, however they are evidently interlinked, or as Rokeach (1979: p. 50) puts it, 'institutional and individual values are really the opposite side of the same coin'. In simple terms, employees' attitudes and behaviours are driven and guided by their values, which inform decisions and actions in relation to all personal and organisational aspects. Organisational values on the other hand provide standards on how organisational members should behave (Edwards and Cable, 2009). This does not negate the importance of situational factors that may influence organisational activity, such as regulatory standards, policies, institutional norms or stakeholder pressures (Marcus et al.,2015), which are particularly relevant in the construction industry due to its intrinsic features, as discussed earlier.

Nevertheless, extensive organisational research highlights the importance of integrating the values of employees into the organisational practices. Schneider (1987) emphasised understanding organisations as people, but in many cases, employees' personal values appear to play a minimal role in the overall organisational values. In some organisations, values are mainly generated by managers with little or no emphasis on the collective values of the employees (Zhang et al., 2008). Williams (2002) and Garriga and Melé (2004) call for values-based management, where the 'organisational values should reflect the collective values of the staff' (Zhang et al., 2008: p. 1009), and are not limited to those of top management (Mills et al., 2009).

Schneider (1987: p. 438) asserted that 'it is the people behaving in them that make organisations what they are'. An organisation's values must therefore be rooted in its employees. Argandoña (2003: p. 19) defined an organisation as 'a group of people whose actions are coordinated in order to achieve certain results in which they all have an interest, although not necessarily for the same reason'. So, as values are a key contributor to actions and behaviours, it reinforces the argument that misalignment of values is likely to have detrimental impact on organisations and their members (Zhang et al., 2008; Mills et al., 2009). Successful and sustained performance is primarily due to the shared values of their employees (Zhang et al., 2008; Florea et al., 2012), hence the alignment of values can help attract and retain employees (Schneider, 1987), and drive their preference for and commitment to their organization (Sen and Bhattacharya, 2001).

A contemporary example of a values-based phenomena is 'sustainable development' (Garriga and Melé, 2004), which in construction projects, for example, is highly influenced by the various stakeholders involved in the execution processes. Therefore, alignment of values could assist project delivery teams in overcoming various challenges and achieving desirable

outcomes. Research in this area is lacking though, so further work is needed to articulate and verify how this might be manifested in practice. This is highly relevant in the construction and built environment sector because tools like BREEAM, LEED and Green Star are being used increasingly to assess project sustainability performance, and again the role of values and behavior in this field is poorly understood.

SUSTAINABILITY PERFORMANCE FRAMEWORK

Given the lack of research in this area from a construction project perspective, there is an opportunity to develop a novel approach which draws on existing theories and empirical studies of how values, at personal and organisational levels, are likely to influence sustainability project performance. This section presents the initial conceptualization of a values-informed sustainability performance framework. The framework draws on Schwartz's (1992) values theory, and the subsequent work of Mills et al. (2009) in the context of construction to provide a fresh perspective that may help project delivery teams to predict sustainability performance of projects on the basis of their organisational and personal values. Four specific assertions are made here, which together will be developed further via empirical research.

Organisational values

Construction projects are widely acknowledged as temporary and multi-organisational endeavours delivering unique and complex projects. Given their coalition nature, such projects involve a diverse range of individuals embedded in and hence influence all of their processes and operations. As established earlier, individuals' actions (such as decision-making) are a manifestation of the values they uphold, and as such the role of individual actors (Visser and Crane, 2010) within construction projects is critical. This was found to be the case with operationalising sustainability. Hence, the first assertion of this framework is to understand the project (or organisation) as its people (Schneider, 1987). Understanding employees helps understand the ambitions they hold for the organisation as a living system because values define who and what each person has to offer as a human being to the overall organisation (Williams, 2002).

Indeed, understanding the values of all the individuals within the project (or organisation) constitutes the first, and arguably most important assertion of this framework, for a number of reasons. This essentially provides the means to understand a project as a single unit and determine whether the perceived values of the overall project, i.e. the espoused values, sanctioned by top management, (Bourne and Jenkins, 2013) are indeed representative of the collective values. This can assist management in better understanding their organisation on the basis of its members and determine or shape its values accordingly (Zhang et al., 2008). Importantly, it is argued that this may assist in designing teams that are compatible from a values perspective to address certain organisational needs that require certain types of values, which in this context is sustainability. Such observations are made by measuring and identifying the values priorities and the degree of values alignment within the organisation.

Individual values

As established earlier, individuals constitute a critical element of an organisation. Individuals are guided by their values, which influence and guide their motivations, attitudes and behaviours towards various organisational aspects (Schwartz, 1992). Sustainability is

regarded as a values-laden notion, and as such, sustainability performance is highly influenced by and is sensitive to the values of individual actors within organisations or projects (Florea et al., 2012).

This idea underpins the second assertion within the framework. A structured and systematic approach to understanding the values of individuals within a project can provide valuable insights on their attitudes and behavioural propensities (Mills et al., 2009). Personal values, as a unit of analysis, provide two important observations that can be directly related to sustainability performance, as outlined below. Such observations can act as a determinant factor of an individual's likely compatibility within an organisation or team. The process of capturing and analysing values, both collectively (understanding the organisation or groups) and individually (to understand individuals) can be achieved using an instrument based on Schwartz's theory of human values (1992), as discussed above.

Values alignment

The third assertion for the framework is that values alignment is important in three distinct ways. At organisational levels, 1) it demonstrates the degree of values alignment and disparity within the organisation (construction project, based on collective values that are perceived to be of similar importance), and 2) highlights the extent of alignment and disparity between the organisation's collective values and the espoused (written statements, etc.) values. Finally, at individual level, 3) the framework demonstrates the level of congruity individuals exhibit in relation to the collective organisational values. The first two points provide the means for an organisation to understand its values, and most importantly, to develop selection criteria for designing teams or organisations.

On the basis of existing empirical studies, this framework is based on the hypothesis that a higher degree of alignment could result in better performing projects, whilst misalignment would necessarily result in negative consequence on project performance. Mills et al., (2009) argued that lack of alignment between organisational and individual values may result in perceptions of 'empty', 'lofty' and 'hollow' organisational commitments, and therefore lead to harmful consequences.

Values priorities

Thøgersen and Ölander (2002, p. 613) contend that: 'values priorities are generally assumed to be some of the most stable phenomena in a person's mental set-up', hence they can serve as a key predictor and determinant of attitudes and behaviours, at personal and organisational levels (Schwartz, 1992; Rokeach, 1973). On the basis of these arguments, using the values instrument, individual actors' values can be profiled against Schwartz's two-dimensional values structure to identify their most and least important values. This will give an indication of their likely attitude and behaviour towards various issues, such as sustainability – thus forming our fourth assertion.

Based on previous research, Self-Transcendence values have been strongly associated with pro-environmental behaviour (or sustainability in a broader sense), whilst Self-Enhancement values were found to oppose sustainability related attitudes and behaviours (Thøgersen and Ölander, 2002; Stern et al., 1999; Nordlund and Garvill, 2002). For example, Nordlund and Garvill (2002, p. 752) found individuals prioritising Self-Transcendent values 'were more aware of the threats to the environment and perceived a stronger moral obligation to act to

protect the environment than individuals who gave priority to Self-Enhancement values'. Such studies have mostly stopped short of exploring the relationship of Openness to Change and Conservation with sustainability (Thøgersen and Ölander, 2002). However, Karp (1996) found that values related to Self-Transcendence and Openness to Change are strong predictors of pro-environmental behaviour, whilst those related to Self-Enhancement and Conservation are strong negative predictors of pro-environmental behaviour. Karp's (1996) findings are of interest, as values associated with Openness to Change may be relevant to the nature of the construction industry. Particularly as Schwartz (2012, p. 15) suggested that Self-Direction values 'foster creativity, motivate innovation, and promote coping with challenges'. Therefore, individuals' broad prioritization of Openness to Change values, or Self-Direction in particular could arguably help overcome some of the inherent challenges of construction projects.

Drawing on other potentially relevant empirical studies, it has been reported that Schwartz's values theory can help determine and predict individuals' level of organisational commitment. For example, Abbott et al., (2005) reported that values associated with Benevolence, Universalism and Self-Direction were related to affective and normative organisational commitment. Cohen's (2010) findings on the other hand suggested that values representing Self-Transcendence and Conservation are positively related to organisational and occupational commitment. Such observations are potentially valuable as the functional role of values is evident in organisational processes and outcomes, such as organisational commitment, job satisfaction and work performance (Cohen, 2010). Hence these key observations are adopted in predicting the sustainability performance of projects. However, given the context in which the above empirical studies were carried out, and the lack of research on the relationship between Openness to Change and sustainability, for the purpose of this framework, therefore, it is argued that a range of values (and value categories) may actually be relevant to sustainability performance in the context of a construction project. For example, Self-Direction may be associated with innovation, which is an essential value for enacting sustainability, whilst tradition values oppose sustainability initiatives. The findings of this study constitute an essential part of an ongoing research programme, by setting out the parameters to explore the likely impact of values on sustainability performance within projects (and organisations). The findings will be explored and verified through two primary data collection phases, which will entail capturing the personal values of over 150 individuals in the project team of a major rail infrastructure project in the UK, followed by semi-structured interviews of selected individuals.

CONCLUDING REMARKS

Sustainability, an area of major concern for the construction industry, is widely regarded as a values-laden notion, and as such is sensitive to the influence of human values. Individual actors, often from a diverse range of backgrounds and organisations, constitute the 'organisation' of a construction project, influencing all organisational processes through their actions and behaviours on day to day basis. Given that values underpin the formation of attitudes and behaviour, individuals were found to be a critical factor in operationalising sustainability. As such a framework was presented in outline, which is based fundamentally on a novel conceptualisation of individuals and their values within an organisation or project.

With the aid of a robust instrument (the SVS), the framework will be used to explore the suggestion that sustainability performance can be predicted using two key indicators, which

are values alignment and values priorities. Organisational values and their alignment with personal values is strongly associated with project success in the literature. As a measure, values alignment provides important insights on the likely compatibility of individuals within organisations (or teams etc.). Values priorities on the other hand demonstrate individuals' likely behaviour propensities, based on the values they consider most important to them. Self-Transcendence values were found to encourage organisational commitment and sustainability, whilst Self-Enhancement values opposed sustainability. Furthermore, Openness to Change values were also found to potentially relate to sustainability, however, empirical studies have in general stopped short of exploring this domain, which warrants further investigation. Subsequent research will test the merit of this nascent framework in the context of a major infrastructure development project in the UK.

ACKNOWLEDGEMENT

REFERENCES

Abbott, G., White, F., & Charles, M. (2005). Linking values and organizational commitment: A correlational and experimental investigation in two organizations. *Journal of occupational and organizational psychology*, *78*(4), 531-551.

Aloini, D., Dulmin, R., Mininno, V., & Ponticelli, S. (2012). Supply chain management: a review of implementation risks in the construction industry. *Business Process Management Journal*, *18*(5), 735-761.

Argandoña, A. (2003). Fostering values in organizations. *Journal of Business Ethics*, *45*(1-2), 15-28.

Bourne, H., & Jenkins, M. (2013). Organizational values: A dynamic perspective. *Organization Studies*, *34*(4), 495-514.

Brooks, A., & Rich, H. (2016). Sustainable construction and socio-technical transitions in London's mega-projects. *The Geographical Journal*, *182*(4), 395-405.

Cohen, A. (2010). Values and commitment: A test of Schwartz's human values theory among Arab teachers in Israel. *Journal of applied social psychology*, *40*(8), 1921-1947.

Cole, R. J. (2005). Building environmental assessment methods: redefining intentions and roles. *Building Research & Information*, *33*(5), 455-467.

Cole, R., & Jose Valdebenito, M. (2013). The importation of building environmental certification systems: international usages of BREEAM and LEED. *Building Research & Information*, *41*(6), 662-676.

Ding, G. (2008). Sustainable construction—The role of environmental assessment tools. *Journal of environmental management*, *86*(3), 451-464.

Edwards, J. R., & Cable, D. M. (2009). The value of value congruence. *The Journal of Applied Psychology*, *94*(3), 654-77.

Fellows, R., & Liu, A. (2012). Managing organizational interfaces in engineering construction projects: addressing fragmentation and boundary issues across multiple interfaces. *Construction Management and Economics*, *30*(8), 653-671.

Florea, L., Cheung, Y., & Herndon, N. (2012). For All Good Reasons: Role of Values in Organizational Sustainability. *Journal of Business Ethics*, *114*(3), 393-408.

Fritzsche, D., & Oz, E. (2007). Personal Values' Influence on the Ethical Dimension of Decision Making. Journal of Business Ethics, *75*(4), 335-343.

Garriga, E., & Melé, D. (2004). Corporate Social Responsibility Theories: Mapping the Territory. *Journal of Business Ethics*, *53*(1), 51-71.

Green, S., Newcombe, R., Fernie, S. and Weller, S. (2004), ''*Learning across business sector: knowledge sharing between aerospace and construction''*, University of Reading.

Holdgate, M. (1996). *From care to action: making a sustainable world*. Taylor & Francis.

Karp, D. G. (1996). Values and their effect on pro-environmental behavior. *Environment and behavior*, *28*(1), 111-133.

Liedtka, J. M. (1989). Value congruence: The interplay of individual and organizational value systems. *Journal of Business Ethics*, *8*(10), 805-815.

Maio, G., Olson, J., Bernard, M., & Luke, M. A. (2006). Ideologies, values, attitudes, and behavior. *In Handbook of social psychology* (pp. 283-308). Springer Us.

Marcus, J., MacDonald, H. A., & Sulsky, L. M. (2015). Do personal values influence the propensity for sustainability actions? a policy-capturing study. *Journal of Business Ethics*, *127*(2), 459-478.

Meglino, B. M. and E. C. Ravlin (1998). Individual Values in Organizations: Concepts, Controversies, and Research, *Journal of Management*, *24*(3), 351-389.

Mills, A. (2001). A systematic approach to risk management for construction. *Structural survey*, *19*(5), 245-252.

Mills, G.R., Austin, S.A., Thomson, D.S. and Devine-Wright, H. (2009). Applying a universal content and structure of values in construction management. *Journal of Business Ethics*, *90*(4), 473-501.

Nordlund, A. M., & Garvill, J. (2002). Value structures behind proenvironmental behavior. *Environment and behavior*, *34*(6), 740-756.

Pathirage, C. P., Amaratunga, D. G., & Haigh, R. P. (2007). Tacit knowledge and organisational performance: construction industry perspective. *Journal of Knowledge Management*, *11*(1), 115-126.

Quinn, R.E. (1988). *Beyond Rational Management: Mastering the Paradoxes and Competing Demands of High Performance*. San Francisco, CA: Jossey-Bass.

Ratner, B. D. (2004). "Sustainability" as a Dialogue of Values: Challenges to the Sociology of Development. *Sociological inquiry*, *74*(1), 50-69.

Rohan, M. J. (2000). A rose by any name? The values construct. *Personality and social psychology review*, *4*(3), 255-277.

Rokeach, M. (1973) *The Nature of Human Values*, Free Press, New York.

Rokeach, M. (1979). *From individual to institutional values: With special reference to the values of science*. In M. Rokeach (Ed.), Understanding human values: Individual and societal (pp. 47-70). New York: The Free Press.

Schneider, B. (1987). The people make the place. *Personnel psychology*, **40**(3), 437-453.

Schultz, P., & Zelezny, L. (1999). Values as predictors of environmental attitudes: Evidence for consistency across 14 countries. *Journal of environmental psychology*, **19**(3), 255-265.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in experimental social psychology*, **25**, 1-65.

Schwartz, S. H. (1999). A theory of cultural values and some implications for work. *Applied psychology*, **48**(1), 23-47.

Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online readings in Psychology and Culture*, **2**(1), 11.

Sen, S., & Bhattacharya, C. (2001). Doing Better? Social Lead Consumer Reactions Doing Corporate Responsibility. *Journal of Marketing Research,* **38**(2), 225-243.

Sortheix, F. M., & Schwartz, S. H. (2017). Values that Underlie and Undermine Well-Being: Variability Across Countries. *European Journal of Personality*, **31**(2), 187-201.

Stern, P. C., & Dietz, T. (1994). The value basis of environmental concern. *Journal of social issues*, **50**(3), 65-84.

Thøgersen, J., & Ölander, F. (2002). Human values and the emergence of a sustainable consumption pattern: A panel study. *Journal of economic psychology,* **23**(5), 605-630.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British journal of management*, **14**(3), 207-222.

Van Quaquebeke, N., Graf, M., Kerschreiter, R., Schuh, S., & Dick, R. (2014). Ideal Values and Counter-ideal Values as Two Distinct Forces: Exploring a Gap in Organizational Value Research. *International Journal of Management Reviews,* **16**(2), 211-225.

Visser, W., & Crane, A. (2010). Corporate sustainability and the individual: Understanding what drives sustainability professionals as change agents.

WCED, U. (1987). *Our common future*. World Commission on Environment and Development. Oxford University Press.

Williams, S. L. (2002). Strategic planning and organizational values: links to alignment*. Human Resource Development International*, **5**(2), 217–233.

Zhang, X., Austin, S., Glass, J., & Mills, G. (2008). Toward collective organizational values: a case study in UK construction. *Construction Management and Economics,* **26**(10), 1009-1028.