

TOWARDS AN UNDERSTANDING OF THE INFLUENCE OF NATIONAL CULTURE ON ORGANISATIONAL VIABILITY: AN EXPLORATORY STUDY

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ABSTRACT

Viability connotes a system's ability to become ultra-stable through effective self-regulation of its internal processes and information processing among its subsystems. Applying this to an infrastructure delivery system (IDS) context, this study proposes that an IDS can successfully deliver on client requirements only if they attain and maintain viability. Research into the influence of National Culture (NC) on an IDS's viability appears to be lacking; hence this study. Adopting a multi-case study, qualitative research design, this study explores three IDSs involved in the delivery of infrastructure projects in two different NC contexts; Nigeria and the United Kingdom. 25 semi-structured interviews were conducted across the cases to provide for an in-depth understanding of existing interactions between participants in these delivery systems: client/project sponsor; main contractor and sub-contractors and to understand the influence of the prevailing national culture on such interactions, if any. Findings indicate that NC in project delivery environments influence the ability of IDSs to attain viability, especially as it pertains to the sustenance of Team Quality Attributes (TWQ) within the system. Based on these findings, it is expected that in modelling IDSs for viability, adequate consideration should be given to the prevailing NC by project managers and planners.

KEYWORDS: Case study, Infrastructure Delivery Systems, National Culture, Organisational Viability.

INTRODUCTION

Infrastructure delivery is a complex undertaking with high levels of structural and social complexity arising from the degree of interactions and interdependencies between parties (Van Marrewijk, 2013). This makes an understanding and subsequent embedding of contextual variables into its design, imperative. Rwelamila, Talukhaba, & Ngowi, (1999) blame the non-consideration of contextual variables in the design of delivery systems and its governance mechanisms for incessant cases of project failure in Africa. An infrastructure delivery system (IDS) as used in this context, connotes an assemblage of extant inter-organisational relationships between various stakeholders during procurement and subsequent delivery of a particular infrastructure asset. As its central proposition, this study supposes that IDSs must attain and maintain viability for optimal performance. Organisational viability in this regard, refers to an organisation's ability to self-regulate and control its internal activities in such a manner that it can effectively withstand any vituperation from its external

environment (Hoverstadt & Bowling, 2002). This is referred to as homeostasis in systems thinking terms (Espejo & Gill, 1997, Schwaninger, 2006). Since IDSs comprise of various stakeholders, attaining and maintaining viability becomes an arduous task due to the plethora of contractual arrangements, divergent and competing interests which exist within it. To deliver the client's requirements, there is undoubtedly, a need to harness these varied interests and to align them towards achieving the client's objective.

The impact of culture on project performance and success has been noted (Pheng & Yuquan, 2002, Phua & Rowlinson, 2003, Ankrah, Proverbs, & Debrah, 2009). Kivrak, Arslan, Tuncan, & Birgonul, (2014) describe culture as being manifest in the process of interaction between various stakeholders in a particular context. Therefore, the perception of an IDS as comprising of a multiplicity of social interactions makes it imperative that the influence of culture on such interactions be subjected to scrutiny. Although a significant proportion of the existing culture-related studies have sought to investigate the impact of culture on project teams from a diversity management and organisational culture perspective, others have sought to assess the impact of culture on particular factors responsible for project success (See Gajendran, Brewer, Dainty, & Runeson, 2012). However, not a lot has been done in exploring the influence of National Culture (NC) on the performance of an IDS from an organisational viability perspective. This is the gap which this study seeks to fill.

Therefore, this paper commences with a review of literature focusing on NC, management and organisation, organisational/systems viability, attributes of viable infrastructure delivery systems, and the development of propositions to be subsequently tested through the findings from the selected case studies. Thereafter, a discussion of the methodology adopted, ensues. This will be followed by the presentation of findings, discussion and conclusion respectively.

LITERATURE REVIEW

National Culture and the Management of Organisations

According to House, Javidan, Hanges, & Dorfman, (2002), culture is described as a set of values, motives, identities and meanings shared by members of collectives or groups. Therefore, NC depicts a situation where such elements are shared by a majority of citizens of a particular country. A lot of work has been done concerning NC and organisational management. For instance, Chevrier (2003) observes that persons who are embedded within a particular cultural context seem to share particular worldviews. Meanwhile, the revelation by Gannon (1994) on NC's contribution to variations in behaviour, makes the evaluation of the impact of NC imperative. In a study spanning 17 countries, Gannon observes that NC was responsible for 25-50% variations in individual attitudes.

De Bony (2010) traces the evolution of literature on NC's influence on management to three main standpoints; the first school of thought inclines towards the objectivity of management practices, maintaining that such practices were not influenced by culture; the second school of thought attempts to show, through cross-cultural studies, that cultural dimensions prevalent in various societies were indeed comparable to each other using certain models; and the third school of thought asserts that culture is native to particular contexts, highlighting the

impossibility of any attempt to properly draw comparisons to another culture. This study draws upon the second school of thought. Despite criticisms over its theoretical and methodological biases (Tayeb, 1994), it is still the most commonly used (De Bony, 2010). Also, this study is not oblivious of the debate concerning the suitability of Hofstede's dimension and GLOBE models which emanate from the second school of thought (Hofstede, 2011, House *et al.*, 2002), in appraising cultural attributes of individuals within a particular country context. Venaik and Brewer in two separate studies, Brewer and Venaik (2012) and Venaik and Brewer (2013), contend that ascribing any attributes to an individual, individuals, people or any other collective groupings of individuals based on the parameters associated with these models was indeed, erroneous.

Both studies assert that proponents of these models expect an application of the models within 'nation' or 'society' contexts, describing these as proper sample boundaries for defining NC dimensions and not to individuals or groups of individuals as is the case in several studies. Yet, whilst agreeing with these authors that the models were not intended for describing individual cultural traits but for nations and societies, De Mooij (2013) argues that the dimensions ascribed to these sample boundaries, nation or society, ordinarily accrues from an aggregation of individual traits peculiar to persons within a society. Also, Kivrak *et al.* (2014) admit to the models' potential to encourage culture stereotyping but agree on its potency in providing frameworks for considering the influence of cultural differences on management and organisations. These criticisms notwithstanding, Venaik and Brewer (2013) observe that these NC dimensions models remain intuitively appealing and logically applicable. However, it must be noted that such debates are beyond the scope of this study.

The study follows patterns laid by studies exploring NC's influence on organisational performance like Kivrak *et al.* (2014) and Iorgulescu and Marcu (2015). In emphasising the salient nature of NC, Tayeb (1994) observes that the major strength of the cultural perspective lies in its recognition of the notion that; cultural values and attitudes differ in degree at least, if not in absolute terms in some cases, between societies. Different cultural groups behave differently under similar circumstances because of differences in their underlying values and attitudes. Various studies have sought to investigate the impact of NC across different facets of organisational management. For instance, Ngowi (2000) observes that although values embedded in TQM could be adopted by organisations, the prevailing cultural context of the wider society (NC) resisted such changes. Then again, Chan (1997) explains the existence of a high degree of cross-cultural influences on construction project management disputes in China. Chan maintains that the societal culture (NC) was partially responsible to the cause of the identified disputes and the manner of settlement.

Furthermore, different studies on cultural differences suggest that management controls considered effective in one country may prove ineffective or even dysfunctional in another country. For instance, Leung, Bhagat, Buchan, Erez, & Gibson, (2005) reiterate that the transfer of several management practices from developed countries to developing countries contributed to the levels of organisational inefficiencies being experienced in such countries. Nazarian and Atkinson (2012) discover that certain aspects of NC impact upon organisational effectiveness. Seymen (2006) advocates for organisations to establish ways through which they can manage cultural diversity by casting management and organisational structure around peculiar conditions which affect and determine their structure. Culture, has come to

assume a major dimension in the management and organisation of infrastructure project delivery. Scott, Levitt, & Orr (2011), trace the evolution of the culture domain in project organisations and infrastructure projects to three respective theoretical backgrounds; the contingency theory of organisations, the resource-based view theory of organisations, and the institutional theory of organisations.

Hence, it would be benign to agree with Evans (1991) that NC makes a unique contribution to understanding management policies and practices. However, despite its seeming salience in organisational studies, Shore and Cross (2005) admit that NC and its influence on the success of project management process has received little attention in extant literature.

Table 1: Hofstede's Cultural Dimensions (Hofstede, 1980; 2011)

Value Dimensions	Value Description	High Score	Low Score
Power Distance Index (PDI)	Degree of equality, or inequality between people in a country's society	Inequalities of power and wealth have been allowed to grow within the society. These societies are more likely to follow a caste system that does not allow significant upward mobility of its citizens	Indicates that the society de-emphasizes the difference between citizen's power and wealth. In these societies equality and opportunity for everyone is stressed.
Individualism/Collectivism (IDV)	Represents the degree to which a society reinforces individual or collective achievement and interpersonal relationships.	Indicates that individuality and individual rights are paramount within the society.	Indicates societies of a more collectivist nature with close ties between individuals and organisations.
Masculinity (MAS)	Degree to which a society reinforces, or does not reinforce, the traditional masculine work role model of male achievement, control and power.	Indicates that the country experiences a high degree of gender differentiation. Males dominate a significant portion of the society and power structure, with females being controlled by male domination	Indicates that the country has a low level of differentiation and discrimination between genders. Females are treated equally to males in all aspects of the society.
Uncertainty Avoidance Index (UAI)	Depicts the level of tolerance for uncertainty and ambiguity experienced within the society such as unstructured situations.	Indicates that the country has a low tolerance for uncertainty and ambiguity. Creates a rule-oriented society that institutes laws, rules, regulations, and controls in order to reduce the amount of uncertainty.	Indicates that the country has less concern about ambiguity and uncertainty and has more tolerance for a variety of opinions. Reflected in a society that is less rule-oriented, more readily accepts change, and takes more and greater.
Long-term/Short-term Orientation (LTO)	This dimension represents the degree to which a society embraces, or does not embrace long-term devotion to traditional, forward thinking.	Indicates that the country prescribes to the values of long-term commitments and respect for tradition. This is thought to support a strong work ethic where long-term rewards are expected as a result of today's hard work. However business may take longer to develop in this society, particularly for an 'outsider'.	Indicates the country does not reinforce the concept of long-term, traditional orientation. In this culture, change can occur more rapidly as long-term traditions and commitments do not become impediments to change.

Influence of Culture on Management Practices

Tayeb (1994) reiterates the difficulty in measuring the influence of culture on management practices. Pheng and Yuquan (2002) express the need for the adoption of typologies developed by Schein (1985) or dimensions developed by Hofstede (1980) for such task. The scholars opine that either of these two approaches will serve as good analytic tools for measuring the behaviour, actions and values of members of a particular society. Cultural dimensions as developed by Hofstede are adopted in this particular study (Hofstede, 1993). According to Pheng and Yuquan (2002), these dimensions represent the critical elements of the basic structure which obtains in the cultural systems of various countries and provide an important framework for analysing NC and the effects of culture on management and

organisations. Hoeklin (1996) insists that the dimensions allow for the comprehension of an individual's conception of not only the organisation and the management practices adopted therein but in understanding the different roles of parties in that organisation as well as the nature of relationships which exist between these parties. This study is interested in making sense of the impact of NC on the core tenets of viability within infrastructure delivery system by applying these dimensions. These dimensions are shown in Table 1. Another aspect identified by Gajendran *et al.* (2012) as posing a challenge to the evaluation of cultural influence on organisations and management practices is the determination of the actual level of cultural manifestation at which the analysis is to be carried out. Acknowledging this emerging discourse, this study adopts the 'behavioural norms' and 'patterns of behaviour' exhibited by organisations in the IDSs assessed as the level of cultural manifestation analysed. Table 1 provides a description of the indicators for the various cultural dimensions propounded by Hofstede for analysing the impact of culture on society or organisation.

The Nigerian and United Kingdom's NC Context

Based on these dimensions, the scores for Nigeria and the UK as obtained from <http://www.geert-hofstede.com/> are shown in Table 2.

The methodology behind these numbers derives from the seminal works conducted by Hofstede over the years. See Hofstede (2011) for an insight into the underpinning methodology. These scores will serve as a basis for the propositions developed and tested during the course of study.

Table 2: NC dimensions in Nigeria and the UK from Hofstede's Perspective

	Dimensions				
	PDI	IDV	MAS	UAI	LTO
Nigeria	80	30	60	55	16
United Kingdom	35	89	66	35	87

The Concept of Organisational Viability

Deriving from the law of requisite variety by Ron Ashby and the Conant-Ashby theorem (Schwaninger, 2012). Beer (1984) observes that for a system to remain viable and deliver its purposes whilst maintaining its identity within a dynamic environment, it requires several integral layers, all of which must be present to make for a viable whole. Hoverstadt and Bowling (2002, p.3) describe viability as an essential organisational attribute which implies "the ability of organisations to become ultra-stable that is capable of adapting appropriately to their chosen environment, or adapting their environment to suit themselves".

Espejo and Gill (1997) and Beer (1984) insist that the attainment of organisational viability remains pivotal to an organisation's potential for strategy adaptation and realisation. Achterbergh, Beeres, & Vriens (2003) state that the capability of systems to attain viability is wholly dependent on the possession of six related functions and an identification of where these functions are situated within the system. These functions include: operation,

coordination, control, monitoring, intelligence and policy respectively. It is imperative that these functions as identified, should be continuously supported by organisations during the implementation of their strategies.

Effective and efficient inter-organisational relationships remain central to the conduct of these functions and subsequently, the attainment of overall organisational viability (Adham, Kasimin, Said, & Igel, 2012). Within the IDS, organisational viability requires an alignment of participant organisations' objectives towards achieving the project sponsor's objective. This position is supported by Ochieng and Price (2010) who opine that improved project performance is recorded only when the entire project team is fully integrated and wholesomely aligned with the project objectives. This fact highlights the importance of effective inter-organisational relationships and interactions. Furthermore, whilst studying Team Work Quality (TWQ) in successful innovation projects, Hoegl and Gemuenden (2001) identify six facets responsible for enhancing TWQ within teams. Relying on the assumption that these attributes hold true within IDS, this study adopts them as measureable indices for assessing the relationship between the organisations within the delivery system. These attributes include: communication, coordination, balanced member contributions, mutual support, effort and cohesion. To Hoegl and Gemuenden (2001), these attributes were capable of providing answers to questions on the relationship of team members (organisations) within a team (delivery system) and how these relationships were influenced by the prevalent NC. The questions under each attribute include:

1. Communication:

- Is there sufficiently frequent, informal or formal, direct and open communication within the system?
- How is such communication affected by the NC?

2. Collaboration:

- Are individual efforts well-structured and synchronised within the IDS in such a manner that would ensure the achievement of the client's objectives?
- How does NC affect collaboration between these individual members?

3. Balanced member contributions:

- Are all members of the IDS able to provide their respective skills and strength to their full capabilities in the performance of their respective roles?
- Is the ability of members to provide their skills influenced by NC?

4. Mutual support:

- Do system's members provide encouragement, assistance and support to each other when executing assigned tasks?
- Does NC influence the ability of system's members to support one another during project delivery?

5. Effort:

- Do system members employ optimal efforts when executing the assigned tasks?
- Does NC affect the ability of system members to perform optimally during project delivery?

6. Cohesion:

- Are members adequately motivated to maintain the system's principles?

- Does NC contribute towards to this motivation or otherwise in the IDS?

Upon an identification of these basic attributes responsible for effective and efficient inter-organisational relationships in teams which are deemed critical to overall organisational viability, the study proceeds to evaluate the impact of NC on the viability of the IDS. Figure 1 illustrates the relationship between these TWQ attributes, viability within an IDS, and cultural dimensions for NC. In Figure 1, organizations working within the IDS are represented by seven hexagons, numbering 1-7. Attaining systems viability requires the steadfast implementation of these functions by the parties allotted such responsibilities under the prevailing contractual agreements. This is indicated by the different colours used in distinguishing between these organizations.

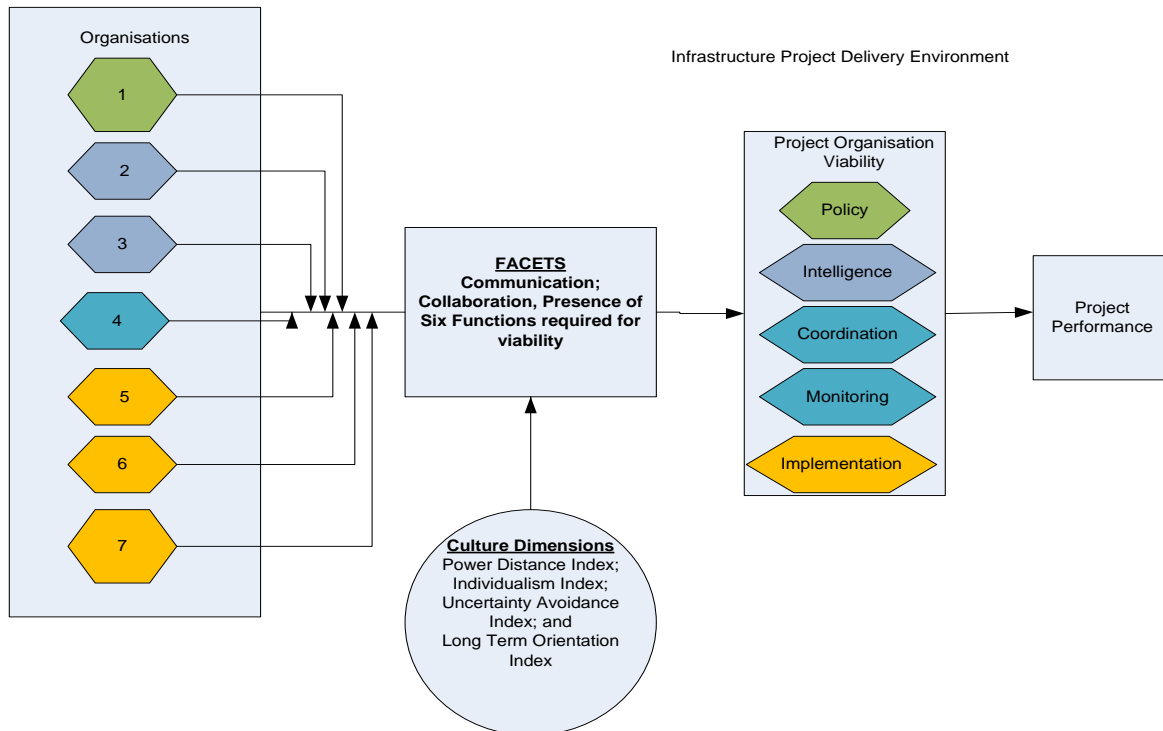


Figure 1: Relationship between Organisational Viability, Culture and Project Performance

Accordingly, the study seeks to provide answers to the question: Does NC affect the viability of the infrastructure delivery system? To do this effectively, the study will explore the influence of NC dimensions on six TWQ attributes presented above within the delivery systems of three infrastructure projects. Figure 1 highlights this relationship. Also, attempts at testing propositions across the case studies will encompass providing answers to the six (6) questions asked pertaining to TWQ as well as an analysis of the influence of NC dimensions on the patterns of answers obtained.

METHODOLOGY

This study adopted a qualitative multiple case study strategy. Three cases comprising of the IDSs responsible for the delivery of infrastructure assets were selected. Whereas IDS1 and IDS2 were responsible for the delivery of infrastructure assets, Assets 1 and 2 respectively in Nigeria (literal replication), IDS 3 was responsible for the delivery for Asset 3 in the UK (theoretical replication) (Eisenhardt & Graebner, 2007). In all the projects, there were

overarching requirements for the engagement of local suppliers/labour during the delivery phases. Whereas this requirement was statutorily backed in IDS1 and 2, it was rather implicit and subtly encouraged by the client in IDS3. Therefore, the engagement of this category of persons/organisations is viewed as a major success criteria. Also, IDS1 and IDS2 was governed by different contracting strategies to allow for theoretical replication within the same NC context. The Viable Infrastructure Delivery Model (Awuzie & McDermott, 2015), was used to identify relevant organisations in the delivery exercise (Figure 1). 25 interviewees were purposively selected from these organizations. Semi-structured interviews lasting for an average of 45 minutes to an hour were conducted over a period of 14 months. During the interview sessions, interviewees were asked to describe extant relationships with other organisations within the IDS as it concerned the engagement of local suppliers/labourers. The interviews were structured in a manner which enhanced understanding of the modes of communication, collaboration, member contributions, support, and level of cohesion prevalent within each IDS. The interviews were recorded with the permission of the interviewees and subsequently transcribed. The data from these cases were juxtaposed with data accruing from a review of relevant project and policy documents.

Due to the study's exploratory nature, the choice of three IDSs is not considered one of such limitations as they allowed for replication. Yet, the composition of the project organisation for IDS1 served as a significant limitation. It was intended to adopt delivery systems that solely had local organisations with wholly local employees as this would engender proper evaluation. Whilst a majority of the organisations within that delivery system were Nigerian entities, the main contractor was a foreign organisation. However, the deficiency was partially remedied by the fact that the Project Manager within this organisation was a Nigerian. Whereas this confirms the global nature of the workforce engaged in infrastructure delivery (Scott *et al.*, 2011; Mahalingam & Levitt, 2007), it must be reiterated that this constraint is not peculiar to this study alone. Posers had been raised previously in Tayeb's criticism of Hofstede's 1980 study which inquired into the possibility of getting only people of a particular culture within a particular organisation at any particular time (Tayeb, 1994).

In analyzing the data from the interviews and document review, the authors relied on thematic analysis. As such, the use of coding and pattern matching was prevalent. The coding process followed a pre-determined sequence, metamorphosing from a thematic code into a category. This process commenced with an identification of the conditions necessary for attaining and maintaining viability with the selected IDSs. This was done through a reliance on project documents and interview transcripts. It was observed that the cases possessed the requisite subsystems for viability. Considering that these subsystems comprised of activities which required interactions between several parties, TWQ attributes were sought for within the identified activities (subsystems). It was expected that the influence of NC on the viability of an IDS would be better understood through the exploration of the relationship between the cultural dimensions and TWQ attributes as evident in the various subsystems within the selected IDSs.

Accordingly, open coding was carried out based on the extant TWQ attributes present within the various IDS subsystems. The authors perused through the transcripts independently and identified aspects of the narratives which were considered exemplars of these attributes.

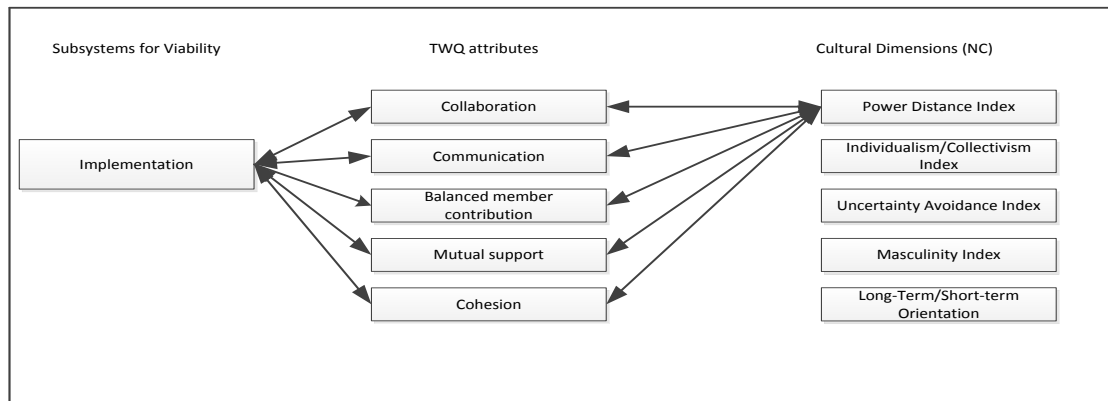


Figure 2: Coding pattern adopted for the Thematic Analysis

Table 3: List of Interviewees with the systems they represent and IDS

Stakeholder Group	Subsystem	IDS	Job Title	Alphabetical Codes
Suppliers' Exchange	4	1 & 2	General Manager	GM
National Oil Company	4	1	Programme Manager	PM
Federal Ministry	5	1 & 2	Assistant Director	AD
Regulatory Agency	4	1 & 2	Senior Manager, Technical	SM
Regulatory Agency	4	1 & 2	Assistant General Manager, Compliance Monitoring	AGM
Regulatory Agency	4	1 & 2	Senior Project Manager, Projects Evaluation and Monitoring	SPM
Client (JV operator)	3 & 2	1	Contract Holder	CH
Client (JV operator)	3 & 2	1	Assistant Manager, Contracts and Procurement	ACP
Client (JV operator)	3 & 2	2	Board Representative/Senior Relationship Manager	BR
Client (JV operator)	3 & 2	2	Head, Content Development	HCD
Client (Public Sector Partner)	3 & 2	2	Manager	MGS
Client (Private Sector Partner)	3 & 2	2	Programme Director	PDN
Client (Private Sector Partner)	3 & 2	2	Project Manager	PMC
Client	3 & 2	3	Head of Procurement	HoP
Client	3 & 2	3	Programme Director	PDT
Main Contractor	1	1	Programme Manager	ProgM
Main Contractor	1	1	Manager, Content Development	MCD
Main Contractor	1	2	Managing Director	MMC
Main Contractor	1	2	Assistant General Manager, Nigerian Content	AGMC
Contractor	1	3	Programme Director	PDCM
Sub-Contractor	1	1	Project Manager	SFPM
Sub-Contractor	1	1	Manager, Supply Chain	MSC
Sub-Contractor	1	2	Project Manager	PMS
Sub-Contractor	1	2	Administrative Head, Projects	HPS
Sub-Contractor	1	3	Managing Director	SSC

These excerpts were subsequently arranged under the relevant codes. Afterwards, the authors compared these codes in a manner analogous to axial coding. Relationships between the TWQ attributes discovered in the various subsystems of the IDS and the cultural dimensions enunciated previously were explored with the objective of ascertaining if these dimensions made any impact on the TWQ identified. In a nutshell, the authors sought to establish, during the analysis proper, the impact of the cultural dimensions on the TWQ directly and the viability of the IDS, indirectly.

Figure 2 provides a succinct example of the relationships which were explored to achieve the study's objective. Also, Table 3 highlights the demographics of the interviewees and the cases that they constitute an integral part of.

PRESENTATION OF FINDINGS

The findings from the cases are presented herein. The relationship between optimal TWQ and organizational viability within the IDS has been buttressed previously. Optimal TWQ engenders the institution and sustenance of organizational viability. In this section, the findings will be presented according to the various dimensions and the kind of influence such dimensions have on sustenance of TWQ attributes identified within the IDS cases. Viability in this case refers to the ability of the IDS to deliver on socio-economic objectives of the client organization through the interaction of the subsystems required to engender a viable system. Suffice to say that this study seeks to validate the scores allocated to the distinct NC contexts by Hofstede as presented in Table 1. This validation is done through the assessment of the relationship between the dimensions and TWQ attributes within the extant cases. Subsequently, findings as presented herein will be compared to the scores contained in Table 1.

The presentation of the findings will be done according to a case by case basis whereas the cross-case analysis will adopt a discussion format, within the discussions section that follows. Tables showing the aspects where relationships were identified as existing between the dimension oriented scores and the TWQ attributes will be depicted with the letter, Y. This implies a positive validation of the scores therein. However, further discussion will ensue in the discussion section.

Table 4. TWQ attributes influenced by NC dimensions in IDS 1

TWQ \ NC DIMENSION	PDI	IDV	UAI	MAS	LTO
Communication	Y	Y	Y	N	Y
Collaboration	Y	Y	Y	N	Y
Balanced member contribution	Y	Y	Y	N	Y
Mutual support	Y	Y	Y	N	Y
Effort	Y	Y	Y	N	Y
Cohesion	Y	Y	Y	N	Y

Table 5. TWQ attributes influenced by NC dimensions in IDS 2

NC DIMENSION	PDI	IDV	UAI	MAS	LTO
Communication	Y	Y	Y	N	Y
Collaboration	Y	Y	Y	N	Y
Balanced member contribution	Y	Y	Y	N	Y
Mutual support	Y	Y	Y	N	Y
Effort	Y	Y	Y	N	Y
Cohesion	Y	Y	Y	N	Y

Table 6. TWQ attributes influenced by NC dimensions in IDS 3

NC DIMENSION	PDI	IDV	UAI	MAS	LTO
Communication	Y	Y	Y	N	Y
Collaboration	Y	Y	Y	N	Y
Balanced member contribution	Y	Y	Y	N	Y
Mutual support	Y	Y	Y	N	Y
Effort	Y	Y	Y	N	Y
Cohesion	Y	Y	Y	N	Y

*Y = Yes (This indicates that there is evidence in the data sets showing conformity to the scoring in Table 1)

*N = Neutral/Not Applicable (This indicates that there is lack of evidence in the data sets to indicate any influence of a particular dimension on the TWQ attributes in an IDS.)

From the data in Tables 4 to 6, it is evident that the NC of the context where an IDS is situated influences the TWQ within the IDSs. Furthermore, the evidence from the interviews and project documents reviewed portray a trend that is aligned to the scores that were provided by Hofstede and which is elucidated in Table 2 for the different countries.

DISCUSSION OF FINDINGS

Power Distance Index (PDI)

From the interviews concerning the extant relationships within the IDSs, patterns validating the NC dimension scores were sought for. Although there was an explicit statutory legislation guiding the engagement of local suppliers in the supply chains of IDS1 and IDS2, client organisations and governmental agencies were more inclined to awarding such tasks to already known contractors and suppliers. These parties made it impossible for new suppliers to win work through the non-provision of critical information during the administration of pre-qualification questionnaires (PQQ) and the tender stage proper. In fact, one of the subcontractors interviewed in IDS2, admitted to lack of knowledge pertaining to the PQQ assessment procedure. The interviewee stated that the applicable weighting criteria was not

made known by the client's consultants. Also, there was an indication of non-receipt of feedbacks from the EPC contractor after having committed a lot of funds towards putting up a bid for participation on the project. However, MMC maintained being admitted onto the project through the purchase of a package awarded to a 'political contractor'. The term 'political contractor' was used by the interviewee to describe suppliers who, though not having the capacity to deliver on certain work packages, are awarded such packages due to their relationships with those in authority or responsible for performing industry oversight functions. Similarly in IDS1, the client organisation, an oil and gas joint venture company, herein referred to as the 'operator' developed its own supplier development network with a period predating the delivery of Asset 1 and carried out the supplier selection for the IDS1 through this supplier development network. This meant that suppliers who were not previously enlisted within this supplier development network were considered as outsiders and as such, not eligible to participate in the Calls for Tender processes.

Likewise, evidence adduced from the interviews indicated that the regulatory environment within which IDS1 and IDS2 operated made it increasingly difficult if not impossible for small suppliers to successfully bid for work. For an organisation to enter the industry as a supplier of work, such an organisation would have to be routinely registered across various platforms operated by different government agencies. Unarguably, this will result to major expenditures which most of the local suppliers would not be willing to undertake when uncertain about winning work packages. Securing approvals from these agencies is another area where the nation's PDI score comes into play. The country's legislation on local content development in appreciation of the lack of many specialist skills required for the delivery of projects in-country, allowed contractors and client organisations alike to apply for ministerial waivers to enable them recruit such expertise from overseas. It was observed that given the difficulty in securing such approvals, most clients tied supplier selection process to the ability of prospective suppliers to easily secure such approvals from the supervising ministry. Also, it was observed that the ability of suppliers to obtain these waivers with ease increased chances of being selected for participation within the IDS. According to the EPC contractor in IDS2;

"During the tender stages, after being asked about our technical competencies, the client wanted to know how we would cope with the areas where we did not possess the required competencies and when we mentioned that we had overseas technical partners, we were asked how long it usually takes us to apply and secure approval for the engagement of these expatriates in our previous projects.....we told them that this process usually takes about three months; which was considered a quick one given the bureaucratic bottlenecks in the process"

However, when asked about the challenges faced by organizations during the delivery of the assets, suppliers in IDS2 mentioned the excessive waiting times-usually between five to six months; to obtain approvals. Bemoaning this slow pace, PDCM maintained that this was responsible for the outsourcing of such tasks to other companies which already had such expertise in-country and such approvals. In IDS1, approvals were obtained by the client organisation on behalf of the suppliers. This could be attributed to the operator's reputation as being strongly connected to top echelons of government. On the other hand, in IDS3, there was unbridled communication at the earlier stages about the proposed project and the guidelines for participation were made public. Furthermore, during the PQQ stages and subsequent negotiations with prospective contractors, the client encouraged the candidates to develop innovative ways of engaging local suppliers and labourers during the project and at

the end of this process, the winner also encouraged its subcontractors to engage local suppliers as part of its corporate social responsibility programme especially in areas where such skills were locally domiciled and such engagements made business sense.

These findings validate the scores accorded to the PDI in both countries as TWQ attributes, especially communication and collaboration, appeared targeted at wealthy and powerful organisations with little information being allowed out into the public domain thus raising transparency concerns and also shutting out prospective participants within the Nigerian context. However, in the UK context, information was easily accessible by the participants during the procurement and subsequent delivery of the asset. No party, during the process, felt denied of access to the right information at any point unlike what obtained within the Nigerian context, wherein some parties indicated that communication and effective collaboration was restricted to a select few who were highly connected thus posing a major entry barrier to other potential players.

Individualism/Collectivism (IDV)

Here, the Nigerian context records a low score on the Hofstede's scale hence indicating a high level of collectivism within the delivery system. This low score, to the researchers' understanding, connotes high levels of collaboration within the IDS wherein closer ties exist between the various organisations involved in the IDS whereas a high score would depict non-collaborative stances between the organisations. Available evidence from the interviews carried out within IDS1 and IDS2 led to the observation of this collectivist attitude between member organisations thus serving as a partial validation of the score attributed to the Nigerian NC PDI dimension. Partial in the sense that such collectivist attitude was limited to the interorganisational relationships within the respective levels (subsystems) operating within the overall IDS and not across levels or subsystems as required for overall viability. A kind of 'we' against 'them' mentality was discovered, particularly in the interorganisational relationships between supplier organisations and the lead contractor organisation and/or the client organisation. Equally, such issues were discovered in the relationships between the client organisations and regulatory (government) agencies on one hand and between contractors and suppliers against the regulatory agencies on the other. Suppliers were quick to allege being undermined by the EPC contractor in IDS2, maintaining that this affected TWQ between both parties. However, the suppliers were quick to rise up in defence of sister supplier organisations whilst maintaining a critical stance of the regulatory agencies whom were accused of working jointly with the client organisation and lead contractor to undermine suppliers' capabilities. Such instances were discovered when the issues of challenges, as well as opinions on the progress with the implementation of the local content legislation concerning the engagement of local suppliers and/or labour were raised by the interviewer. Shared meanings of definitions were identified within levels but not across levels on issues such as the definition of 'local suppliers' and the appropriate criteria or measuring content development progress. The presence of varied meanings within the systems impacted negatively on their viability.

On the other hand, the evidence deduced from IDS3 does not support this idea of collectivism as organisations at various levels (subsystems) performed their roles as agreed with other parties and assumed total responsibility for the performance of these roles. In a nutshell, the parties in IDS3 only went as far as the prevailing contracts and their respective organisational goals allowed them to go and no further in the performance of their roles. This was quite

unlike the case in IDS1 and IDS2 where stakeholders were ready to hold brief for similar agencies or organisations operating on the same levels. It was easier to trace the quarters within the IDS where various responsibilities were apportioned, thus engendering probity and accountability unlike in IDS1 and IDS2 where such identification was difficult as organisations at various levels were protective of each other and hesitant to release information which might undermine the credibility of another organisation operating at the same level. This scenario in IDS1 and IDS2 fostered corrupt practices. Once more, these findings lend credence to the scores awarded to both countries on the Hofstede's index. It also portrays the capability of the NC IDV dimension to affect interorganisational, multi-layered communication and collaboration within the IDS thus indirectly affecting the viability or otherwise of the IDS.

Uncertainty Avoidance Index (UAI)

To a large extent, the findings from the interviews support the index's scoring in this regard. In Nigeria, the implementation of local content policy guidelines commenced initially with the client organisations being encouraged by the government to allow for the engagement of local suppliers within their supply chains. However, the introduction of a statutory legislation to enforce such engagement after a trial period of seven years could be traced to the society's inclination to the use of laws, rule, regulations, and controls to enforce compliance and clarify the areas where such engagements are needed. With the promulgation of the legislation, the expected roles and responsibilities of various parties to an IDS was clearly specified as it concerned the engagement of local suppliers and/or labour. It was expected that such clarification will reduce the level of uncertainties concerning the roles and responsibilities which was obtainable in the era preceding the enactment of the legislation. This was capable of influencing the viability of the IDS as stakeholders were made aware of their statutory roles in the implementation of policy. Situated within a contrasting NC context, IDS3 portrayed evidence of higher tolerance for uncertainty and ambiguity as it pertained to the development of innovative ways for ensuring engagement of local suppliers. The client organisation within the IDS allowed the DCM contractor to seek means of engaging local suppliers and also the measurement of progress made in this regard. According to ProgM;

"We created our own KPIs; like how many local labourers should we have? Forty, fifty or perhaps none at all within a forty-mile radius.... we decided where we were and what was best to be done. It was an internal monitoring arrangement for the CSRs back to the contractor organisation but not to the client side. We gave it to the client at some point when they said; you know, can we have it...And it consisted of mostly people's postcodes and then just numbers of apprentices created."

This is quite contrary to what obtains in the Nigerian context wherein these conditions are expressly stated in the legislation, hence denying participating organisations the opportunity to innovate in this regard. This is capable of influencing the viability of the overall system. ProgM highlights the adverse nature of prescribing such issues in legislations and contract documents. According to ProgM;

"There is also a problem of what is sixty apprenticeships within the project, could it possibly be sixty percent all the time or just a one off sixty percent or could it possibly be one apprentice receiving various trainings sixty times on various project? This encourages a lot

of people to just play games and try to justify whatever it is because it is difficult. But if you create something that is reasonable, that is a sort of smart objective then that is fine. If it becomes difficult you don't act, as a client, you don't really achieve what you want to do in reality just because of these benefits."

Long-term/Short-term Orientation (LTO)

A proper scrutiny of the local content development act currently being implemented in Nigeria and which governs the two distinct IDSs being understudied in this study indicates that the Nigerian society is one which is interested in short-term objectives as against the long-term objectives as it pertains to the development of local suppliers and subsequent engagement. The law demands immediate award of work to Nigerian owned entities on the short term during the actual project delivery. Proper attention is not accorded to the development of the skills and competencies by the local suppliers. Even more surprising is the fact that approvals for the recruitment of expatriates in the performance of tasks where there are no competencies in-country are limited to a three-year period. A three-year period has been referred to by interviewees as being inadequate for the development of specialist competencies by local suppliers. Also, it appears that all the emphasis on development of competent local supply chains was aimed at the construction phase only alongside other ancillary programmes and not the asset maintenance aspect which had the potential for achieving sustained engagement of local suppliers in a cost-effective manner. The lack of this long-term orientation within IDS1 and IDS2 was also discovered within the context of providing a continuous pipeline of work for suppliers to develop the much sought after competencies. Contractor selection and adoption of contracting strategies was done with short-term cost considerations being taken into account. Suppliers were not assured steady work and as such could not sustain the engagement of locals when it did not prove cost-effective on the short term.

In the UK context, the society's inclination to longer term orientation was observed as reflecting on the workings of the IDS3. The choice of contracting strategy played a key role in achieving the sustained engagement of local suppliers. Furthermore, the client organisation programmed the delivery of the works on asset 3 in such a manner that the main contractor was assured of continued work on the project over a long term period thus allowing the contractor to collaborate with the rest of the supply chain to achieve client's local supplier requirements. This finding supports the scores awarded to NC contexts of both countries in the Hofstede's index and shows the kind of influence which the NC context can have on the viability of the IDS. MAS was not included in the analysis presented in subsequent parts as it was not observed as having any impact on the TWQ attributes observed within the IDSs understudied

CONCLUDING REMARKS

Contemporary project and programme management discourse seems to engender renewed attention on soft aspects of management. Accordingly, these soft aspects have undermined the ability of project and programme managers to effectively manage and govern project delivery processes. Also, present day project management competencies appear to dwell more on the technical aspects of management much to the detriment of the soft aspects. Culture has been identified as a significant part of the coterie of soft aspects capable of influencing project management capabilities on extant project delivery systems. Whereas the

concept of culture remains vague, there appears to be a consensus among scholars on the need to understudy its influence on human activity systems, which project delivery constitute an integral part. However, a plethora of studies on culture within the realm of project management appear to focus mostly on organizational culture to the detriment of NC. This observation brought about this study.

This study explores the influence of NC on the viability of project delivery systems. To achieve its objective, the study relied on the NC cultural dimensions provided by Hofstede. Relying on a two country context comparative analysis -Nigeria and the United Kingdom, the study sought to validate the scores allotted to different cultural dimensions in the two country contexts. This approach was adopted given the prevalent acclaim being accorded to these Hofstede dimensions in extant literature. Furthermore, the study decidedly applied the attributes of TWQ as parameters for showcasing the relationships between parties to an infrastructure delivery system. Therefore, to validate these aforementioned scores, the authors evolved a multi-dimensional approach wherein the key aspects of organizational viability were alluded to as comprising of these attributes of TWQ and the capability of TWQ attributes in contributing towards viability. Based on this relationship, the authors selected a coterie of case studies and, utilizing the scores allotted to the dimensions to ascertain the potency of such scores on these attributes within the cases.

Interviewees were purposively selected from the selected cases. Data was elicited from this sample through semi-structured interviews and document reviews. Data was analysed thematically by both authors in two stages. Whereas the first stage consisted of the identifying the presence of these TWQ attributes within the various subsystems of the delivery system, the second phase involved the identification of traits signalling an influence of the dimensions in the two NC contexts on the TWQ attributes in the three cases. From the foregoing, it was established the NC actually directly influenced the nature of TWQ attributes, hence indirectly affecting the ability of the delivery systems to attain and maintain viability.

Summarily, it is expected that the findings from this study would elicit further discussions as it concerns the impact of NC on project delivery systems to enable better planning of delivery and the attainment of successful outcomes in tandem with client requirements.

REFERENCES

- Achterbergh, J., Beeres, R. & Vriens, D. (2003). Does the balanced scorecard support organizational viability? *Kybernetes*, 32 (9/10), 1387-1404.
- Adham, K. A., Kasimin, H., Said, M. F. & Igel, B. (2012). Functions and Inter-Relationships of Operating Agencies in Policy Implementation from a Viable System Perspective. *Systemic Practice and Action Research*, 25(2), 149-170.
- Ankrah, N., Proverbs, D. & Debrah, Y. (2009). Factors influencing the culture of a construction project organisation: an empirical investigation. *Engineering, Construction and Architectural Management*, 16 (1), 26-47. <https://doi.org/10.1108/0969980910927877>
- Awuzie, B. & McDermott, P. (2015). A conceptual model for evaluating infrastructure-based temporary multi-organisations. *Built Environment Project and Asset Management*, 5 (1), 103-120. <https://doi.org/10.1108/BEPAM-10-2013-0052>

- Beer, S. (1984). The viable system model: its provenance, development, methodology and pathology. *Journal of the operational research society*, 35 (1), 7-25.
- Brewer, P. & Venaik, S. (2012). On the misuse of national culture dimensions. *International Marketing Review*, 29 (6), 673-683. <https://doi.org/10.1108/02651331211277991>
- Chan, E. H. (1997). Amicable dispute resolution in the People's Republic of China and its implications for foreign-related construction disputes. *Construction Management & Economics*, 15 (6), 539-548. <http://dx.doi.org/10.1080/014461997372746>
- Chevrier, S. (2003). Cross-cultural management in multinational project groups. *Journal of World Business*, 38 (2), 141-149. <https://doi.org/10.1016/S1090-9516>
- De Bony, J. (2010). Project management and national culture: A Dutch–French case study. *International Journal of Project Management*, 28 (2), 173-182. <https://doi.org/10.1016/j.ijproman.2009.09.002>
- De Mooij, M. (2013). On the misuse and misinterpretation of dimensions of national culture. *International Marketing Review*, 30 (3), 253-261. <https://doi.org/10.1108/02651331311321990>
- Eisenhardt, K. M. & Graebner, M. E. (2007). Theory Building from Cases: opportunities and challenges. *Academy of Management Journal*, 50 (1), 25-32. <https://doi.org/10.5465/AMJ.2007.24160888>
- Espejo, R. & Gill, A. (1997). The Viable System Model as a framework for understanding organizations. *Phrontis Limited & SYNCHO Limited*.
- Evans, P.A. (1992), Management development as glue technology, *HR. Human Resource Planning*, 15 (1), 85-106
- Gajendran, T., Brewer, G., Dainty, A. R. & Runeson, G. (2012). A conceptual approach to studying the organisational culture of construction projects. *Australasian Journal of Construction Economics and Building*, 12(2), 1-26.
- Gannon, M. J. (1994). *Understanding global cultures: Metaphorical journeys through 17 countries*, Sage, Thousand Oaks, CA.
- Hoeklin, L. (1995). *Managing cultural differences: strategies for competitive advantages*. Addison-Wesley Longman Limited.
- Hoegl, M. & Gemuenden, H. G. (2001). Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. *Organization Science*, 12 (4), 435-449.
- Hofstede, G. (1980). Culture and organizations. *International Studies of Management & Organization*, 10 (4), 15-41.
- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, 2 (1), 1-26. <https://doi.org/10.9707/2307-0919.1014>
- House, R., Javidan, M., Hanges, P. & Dorfman, P. (2002). Understanding Cultures and Implicit Leadership Theories Across the Globe: An Introduction to Project GLOBE *Journal of World Business*, 37 (1), 3-10. <https://doi.org/10.1016/S1090-9516>
- Hoverstadt, P. & Bowling, D. (2002). Modelling Organisations using the Viable System Model. *Royal Academy of Engineering Systems Engineering Workshop*. Fractal Consulting.

- Iorgulescu, A. & Marcu, M. (2015). The relationship between national culture and organizational culture. *Social Sciences and Education Research Review*, 2 (2), 93-98.
- Kivrak, S., Arslan, G., Tuncan, M. & Birgonul, M. T. (2014). Impact of national culture on knowledge sharing in international construction projects. *Canadian Journal of Civil Engineering*, 41(7), 642-649. <https://doi.org/10.1139/cjce-2013-0408>
- Leung, K., Bhagat, R. S., Buchan, N. R., Erez, M. & Gibson, C. B. (2005). Culture and international business: recent advances and their implications for future research. *Journal of international business studies*, 36(4), 357-378.
- Mahalingam, A. & Levitt, R. E. (2007). Institutional theory as a framework for analyzing conflicts on global projects. *Journal of Construction Engineering and Management*, 133 (7), 517-528.
- Nazarian, A. & Atkinson, P. (2012). The relationship between national culture and organisational effectiveness: the case of Iranian private sector organisations. *International Journal of Management and Marketing Academy*, 1(2), 73-81
- Ngowi, A.B. (2000). Impact of culture on the application of TQM in the construction industry in Botswana. *International Journal of Quality & Reliability Management*, 17 (4/5), 442-452. <https://doi.org/10.1108/02656710010298517>
- Ochieng, E. & Price, A. (2010). Managing cross-cultural communication in multicultural construction project teams: The case of Kenya and UK. *International Journal of Project Management*, 28(5), 449-460.
- Pheng, L. S. & Yuquan, S. (2002). An exploratory study of Hofstede's cross-cultural dimensions in construction projects. *Management Decision*, 40 (1), 7-16. <https://doi.org/10.1108/00251740210423036>
- Phua, F. T. & Rowlinson, S. (2003). Cultural differences as an explanatory variable for adversarial attitudes in the construction industry: the case of Hong Kong. *Construction Management and Economics*, 21(7), 777-785. <http://dx.doi.org/10.1080/0144619032000108245>
- Rwelamila, P. A., Talukhaba, A. A. & Ngowi, A. B. (1999). Tracing African Project Failure Syndrome: the significance of "Ubuntu". *Engineering, Construction and Architectural Management*, 6(4), 335-346. <https://doi.org/10.1046/j.1365-232x.1999.00120.x>
- Schein, E. H. (1985). *Organizational culture and leadership: A dynamic view*. Jossey Bass, San Francisco
- Schwaninger, M. (2006). Design for viable organizations: the diagnostic power of the viable system model. *Kybernetes: The International Journal of Systems & Cybernetics*, 35 (7/8), 955-966. <https://doi.org/10.1108/03684920610675012>.
- Schwaninger, M. (2012). Making change happen: recollections of a systems professional. *Kybernetes*, 41 (3/4), 348-367. <https://doi.org/10.1108/03684921211229451>
- Scott, W. R., Levitt, R. E. & Orr, R. J. (2011). *Global projects: Institutional and political challenges*, New York: Cambridge University Press.
- Seymen, O. A. (2006). The cultural diversity phenomenon in organisations and different approaches for effective cultural diversity management: a literary review. *Cross Cultural Management: An International Journal*, 13 (4), 296-315. <https://doi.org/10.1108/13527600610713404>
- Shore, B. & Cross, B. J. (2005). Exploring the role of national culture in the management of large-

scale international science projects. *International Journal of Project Management*, 23(1), 55-64. <https://doi.org/10.1016/j.ijproman.2004.05.009>

Tayeb, M. (1994). Organizations and national culture: Methodology considered. *Organization studies*, 15(3), 429-445.

Van Marrewijk, A. (2013). Organizing Mega-projects: Understanding their Cultural Practices. *Megaprojects: Theory meets Practice* London: Manchester Business School.

Venaik, S. & Brewer, P. (2013). Critical issues in the Hofstede and GLOBE national culture models. *International Marketing Review*, 30 (5), 469-482. <https://doi.org/10.1108/IMR-03-2013-0058>