A conceptual meta-framework for managing multicultural global virtual teams

M. Reza Hosseini, Jian Zuo, Nicholas Chileshe* and Bassam Baroudi

School of Natural and Built Environments, Barbara Hardy Institute (BHI), University of South Australia, G.P.O. Box 2471 Adelaide, South Australia 5001, Australia
E-mail: Mohammad.Hosseini@unisa.edu.au
E-mail: Jian.Zuo@unisa.edu.au
E-mail: Nicholas.Chileshe@unisa.edu.au
E-mail: Sam.Baroudi@unisa.edu.au
*Corresponding author

Abstract: Although GVTs can bring about many benefits for organisations, the potential advantages of using GVTs largely depend upon fulfilling the requirements prescribed by the critical success factors (CSFs) of implementing GVTs such as resolving the multiculturalism issues. Likewise, it is acknowledged that management aspects of implementing GVTs present one of the most complicated tasks in deploying the foregoing teams in organisations. These complications have roots in the necessity of using ICTs as the main medium exacerbated by multiculturalism and geographical dispersion of members. The area is in need of further research, which necessitates building intermediate theories and frameworks. This paper aims at critically observing and analysing the existing literature on managing GVTs as the first step resulting in developing theoretical frameworks. Drawing upon a dynamic integrated approach, this paper presents a conceptual meta-framework for incorporating different issues of managing GVTs titled as ‘Dynamic Package of Managing’ (DPM) global virtual teams.

Keywords: global virtual teams; GVTs; management; multiculturalism; members; networking; virtual organisations.


Biographical notes: M. Reza Hosseini is currently a PhD candidate and a Research Assistant in Construction Management field at the University of South Australia with experiences of conducting many research projects for the Building Code Office of Iranian Ministry of Housing. He has an MSc in engineering and construction management, and his main research fields are virtual teams, innovation diffusion, ICTs, and productivity within construction context.

Jian Zuo is a Senior Lecturer at the School of Natural and Built Environments, University of South Australia. His research interests relates to sustainable built environment via stakeholder engagement. He is a regular reviewer for a number of top journals in construction project management such as Construction
Many new structures for team working have flourished due to the pressure from the fierce competition in the business environment to improve the performance (Atrostic and Nguyen, 2005). Organisations should use more effective teams and managerial styles to deal with the requirements of the globalisation trend (Duarte and Snyder, 2006; Wickramasinghe et al., 2008) and the intention of managers towards decentralisation (Algesheimer et al., 2011). Subsequently, deploying network-based innovations has become commonplace in a wide range of organisations (Sorli and Stokic, 2011; Hosseini et al., 2012; Alawamleh and Popplewell, 2012; Garcia-Murillo et al., 2010). Examples of the foregoing innovations are the team working structures with members working from distant locations titled as global virtual teams (GVTs) (Peñarroja et al., 2013). There is consensus within the literature that GVTs are high performance and possess the attributes of creative teams, thus recommended by a number of studies due to various benefits this new team structure would offer to organisations. Similarly, many managers are encouraged to embark on deploying GVTs to tackle the challenges of contemporary business environment (Algesheimer et al., 2011; Rezgui, 2007) as GVTs were widely predicted as a core feature of future organisations (Duarte and Snyder, 2006; Chang, 2011; Mukherjee et al., 2012; Cao and Wang, 2012). Nevertheless, for achieving the desirable outcomes of GVTs organisations have to address the issues and to implement effective managerial strategies (Yen et al., 2002) in order to fulfill the requirements of GVTs (Resnick, 2004). Otherwise, the resources allocated for adopting GVTs might be wasted (Camarinha-Matos and Afsarmanesh, 2003; Gignac, 2005; Zenun et al., 2007; Chang, 2011). Therefore, implementing effective management for GVTs requires an in-depth understanding of the critical success factors of GVTs that are not necessarily consistent with the policies introduced to traditional face-to-face teams (Hosseini and Chileshe, 2013b).
Above all, many studies have postulated that there is lack of knowledge concerning various aspects of GVTs and have called for further investigation on the area (Van Pelt, 2010; Algesheimer et al., 2011; Booth, 2011; Martins and Schilpzand, 2011; Schweitzer and Duxbury, 2010). Based on the existing literature, the major issues of implementing GVTs mostly concern managerial aspects due to the negative effects of the limitations of ICTs as the main medium, cultural diversity and the dispersion of members (Pinjani and Palvia, 2013). Hence, firstly we will justify the necessity of creation of knowledge about managerial aspects of GVTs and will expound on the challenges facing managers drawing upon exhaustive observation of the literature as the first step towards developing the conceptual frameworks (Carlile and Christensen, 2005). Aimed at expediting and directing the knowledge creation for filling the gaps of existing knowledge spotted during the observation, the study will propose conceptual models to clarify the constructs and relationships affecting the management aspects of GVTs. It is followed by discussions putting forward the necessity of dealing with management aspects of GVTs based on a dynamic integrated approach. Afterwards, the paper presents a theoretical meta-framework conceptualising resolving the challenges of managing GVTs by selecting the most appropriate package of management policies from available packages for managing GVTs.

2 Research methodology

Wacker (1998) enunciated that meeting all the necessary requirements of development of an effective theory takes conducting a broad review of the literature. In addition, our defined objectives encompassed the inductive procedure of developing conceptual hypotheses up to the point of building a conceptual meta-framework (1993). Since, the discussions will not proceed into deductive process necessary for empirical research. On top of that, drawing upon exhaustive literature reviews as the sole method has been a ubiquitous practice in many seminal papers regarding GVTs within the literature (Powell et al., 2004; Schiller and Mandviwalla, 2007; Hertel et al., 2005). Therefore, the extensive review of the existing literature focused on certain criteria is fitted with the objectives of this paper (Cooper, 1988; Randolph, 2009).

To find the existing studies relevant to our topic of interest, different databases are available, however it is of crucial importance that we approach the correct databases (Green et al., 2006). Hence, in our preliminary search we utilised basic keywords such as ‘virtual teams’. We searched within a wide range of databases including Google-Scholar, Elsevier, Emerald, ISI web of science, Science-direct, Compendex, EBSCO, and ABI/INFORM. Along with all well-known databases we covered some private bibliographic databases, e.g., http://www.scoop.it/t/virtual-r-d-teams as well. Afterwards, we preceded our searching procedure by using the keywords of the papers found during the first phase. It was because as stated by Martins and Schilpzand (2011) published works have utilised different labels for teams with the attributes of virtual teams. We included the set of titles and labels used in the paper by Martins and Schilpzand (2011) and Hosseini and Chileshe (2013a) as the keywords for our research within the mentioned databases. The outcome of our search culminated in finding more than 400 journal papers, theses and conference papers applicable to our topic of interest that formed the foundation for this paper.
3 Conceptual definition of GVTs

Organisations have been using conventional teams since the 1960s. However, the concept of GVTs emerged as the offspring of the booming of outsourcing trend in 1980s due to the awareness of managers of the remarkable effects of outsourcing in reducing the overhead costs (Camarinha-Matos et al., 2005). Hertel et al. (2005) argued that the notion of virtual teams is not a phenomenon of the recent decades and there are numerous examples of collaboration between people across large distances from earlier times. Indeed, the concept of GVTs is the outcome of a long evolutionary process (Ebrahim et al., 2009; Powell et al., 2004). Therefore, due to the evolving of GVTs, the field has no consensus regarding the formal conceptual definition of GVTs (Mawanda, 2012; Martins and Schilpzand, 2011). Nevertheless, developing any theory or framework requires a formal conceptual definition as the prerequisite (Wacker, 2004) and discussions regarding clarifying the conceptual definition of GVTs are beyond the scope of this study. As a result, we consider the below definition of GVTs as the cornerstone of all our discussions for this paper: a team comprised of geographically, organisationally and/or time dispersed members heavily relied on ICTs to accomplish the tasks which for all are held responsible (Hosseini and Chileshe, 2013a).

As conveyed in the conceptual definition, most of the crucial issues of GVTs are the results of the nature and the inherent idiosyncrasies associated with necessities of virtual team working. As stated within the introduction section, the foregoing idiosyncrasies dictate some critical factors as the perquisites for GVTs success. According to some recent studies building trust, providing effective communication, supplying technical and overall corporate support are among the most important prerequisites for the success of virtual settings (Verburg et al., 2013). In consistency with the findings of the former study integrated with the results of the literature review the most important groups of factors suggested by the literature suggests are considered as will be discussed in the following sections of this paper.

4 Pentagonal aspects of managing GVTs

Generally, although different available conceptual definitions of GVTs have some discrepancies, researchers generally agree that there are some main hallmarks for GVTs delineating them from conventional face-to-face teams. A salient example is their heavy reliance on ICTs that affects GVTs in many aspects including their general performance (Martins et al., 2004) due to the lower quality of communications (Hertel et al., 2005). Hence, GVTs performance is susceptible to ICTs utilisation strategies. Therefore, selecting the suitable ICTs tools for specific communications is not an easy task for managers of GVTs (Karoui et al., 2010). Other main distinctions between GVTs and conventional teams include the geographical dispersion of members (Peters and Manz, 2007), the level of reliance on ICTs (Schweitzer and Duxbury, 2010), temporal dispersion (O’Leary and Cummings, 2007), and diversity in terms of backgrounds, nationality and culture in GVTs (Gibson and Cohen, 2003; Gibson and Gibbs, 2006). Inherent idiosyncrasies of GVTs make them vastly different from face-to-face teams (Schweitzer and Duxbury, 2010; Mathieu, 2012). Hence, many managerial policies fitted to face-to-face teams are not effective for GVTs (Hosseini and Chileshe, 2013a). The five
items illustrated in Figure 1 are regarded as central to the success of managers of GVTs and are briefly discussed in following sections of the paper.

**Figure 1** Pentagonal fundamental aspects of managing GVTs (see online version for colours)

4.1 Member selection for GVTs

When it comes to team working, members are a pillar of success (Jones et al., 2000). In case of GVTs, some studies have enunciated that deploying appropriate team members could delineate successful and unsuccessful teams (Ebrahim et al., 2009; Goodbody, 2005) and is one of the demanding steps for establishing GVTs (Harvey et al., 2004). According to Petersen (2007), the ability to identify and assemble the best possible team is central to the success of any virtual team working. The necessary technical competencies of members are based on the determined goals of the team. Accordingly, recognising fitted people is one of the crucial tasks for managers of GVTs (Hunsaker and Hunsaker, 2008). However, taking into account the spatial dispersion between the members and necessity of using ICTs as the main channel of communications, some specific skills should be possessed by members of GVTs (Salas et al., 2000; Bellamy et al., 2005; Cannon-Bowers et al., 1995; Hertel et al., 2005). Some studies have argued that non-technical and socio-emotional skills outweigh task-related skills in selecting members of GVTs (D’Souza and Colarelli, 2010). There are also some debatable arguments within the literature over the preferences of some specific cultures for selecting members (Hertel et al., 2005). Some recent studies even stressed the primacy of investigation the most effective methods of teaching and learning to increase the effectiveness of potential GVTs’ members (Gilson et al., 2013).

Issues stemmed from seemingly inevitable cultural diversity of members of GVTs identified in relevant literature are illustrated in Figure 2 and the following sections present a brief discussion of each of the areas identified.
4.1.1 Cultural distance in GVTs

As per the conceptual definition of GVTs, members might come from different backgrounds, with various experiences, different behaviours, dissimilar working cultures, unlike routines, inconsistent assumptions about the GVTs and the organisation (Kayworth and Leidner, 2002; Powell et al., 2004; Kozlowski and Ilgen, 2006). Many published works have shown that cultural diversity plays a vital role when it comes to performance and outcome of GVTs (Hitson, 2008; Piccoli et al., 2004; Connaughton and Shuffler, 2007; Zimmermann, 2011; Chen and Kong, 2013). Hence, many studies have aimed at investigating the effects of cultural diversity on the performance of GVTs (Prasad and Akhilesh, 2002; Harvey et al., 2004; Trent, 2003; Hartenian, 2003; Zimmermann, 2011; Dekker et al., 2008). Cultural diversity along with disparity of functional backgrounds and the number of team members have significant impacts on configuration of GVTs (Duarte and Snyder, 2006; Goodbody, 2005). To deal with cultural diversity issues, some studies have proposed that managers should only select members capable of working independently and negotiating and settling the potential cultural conflicts well (D’Souza and Colarelli, 2010; Harvey et al., 2004). Nevertheless, we would argue that cultural differences might seem to be problematic in some situations but the high dependency of GVTs on ICTs could alleviate the problem of cultural differences. As stated by Bjorn and Ngwenyama (2009), ICTs would act as a filter to moderate the challenges of cultural distance for communications between the members of GVTs. Hence, managers should consider the issues of cultural diversity and other attributes of GVTs through the lenses of a holistic approach. These statements have been supported by the results of recent studies indicating the cultural diversity in some cases could entails building relationship among the members of GVTs and lead to amplified team effectiveness (Pinjani and Palvia, 2013). Hence, effective managerial strategies could turn some issues that are largely regarded as negative aspects into matters positively affecting the outcomes of GVTs.
4.1.2 Team cohesiveness and team identity

Cultural diversity contributes to issues pertaining to cohesiveness (Martins and Schilpzand, 2011; Powell et al., 2004) and identity of GVTs (O’Leary and Mortensen, 2010; Shapiro et al., 2002; Hertel et al., 2005) as well. Therefore, managers of GVTs should take into account resolving these issues in different stages of GVTs lifecycle.

4.2 Leadership style in GVTs

Many researchers have maintained that leadership style implemented by the managers plays a crucial role in effectiveness of GVTs (Jarvenpaa and Tanriverdi, 2003; Kayworth and Leidner, 2002) and even could be the most challenging task for managers of GVTs (Hertel et al., 2005; Bell and Kozlowski, 2002; Bal and Teo, 2001; Malhotra et al., 2007). It is widely acknowledged in the existing literature that direct autonomous controlling approaches are not effective when it comes to GVTs (Hertel et al., 2005; Powell et al., 2004). It seems that the leader of GVTs should focus on meeting the objectives of the projects by means of forging strong personal relationships with the members of the team (Tworkoger et al., 2013). In addition, the existing literature advocates the necessity of possessing specific leadership attributes for managers of GVTs (Bal and Teo, 2001). To this end, researchers have put in a lot of efforts to identify the most effective leadership strategy for GVTs (Malhotra et al., 2007; Van Pelt, 2010). However, it is still a matter of controversy (Mukherjee et al., 2012; Mawanda, 2012) as there are many contradicting leadership styles for GVTs proposed in the literature. These include: pursuing the members’ work by monitoring via ICTs, promoting self-managing, and managing by using objective-feedback, and empowerment of members (Hertel et al., 2005). This indicates that any effective leadership strategy should take into account the unique idiosyncrasies of GVTs specifically the effect of ICTs and characteristics pertaining members and cultural diversity issues.

4.3 Control and supervision in GVTs

Researchers regard the lack of an effective method for evaluating the performance and implementing supervision as one of the serious challenges to managers of GVTs (Haywood, 1998; Piccoli et al., 2004; Bell and Kozlowski, 2002). Drawing upon the leadership studies, some scholars have stated that members’ empowerment-oriented supervisory methods would be a remedy to the foregoing problem (Walvoord et al., 2008; Kirkman et al., 2004). There are many different indices of performance for GVTs in the literature including the level of dedication of members to teams’ objectives, cohesiveness of the team, and the equilibrium existing between respect and unity for individual differences (Ebrahim et al., 2009). Another index of performance for GVTs is the level of customer satisfaction (Kirkman et al., 2004). Other performance indices for GVTs found in the literature are the quality of decisions, the quantity of ideas developed in GVTs, and the timeliness of decision-making processes (Powell et al., 2004; Piccoli et al., 2004). It seems methods available for evaluating GVTs performance are largely similar to those of the conventional teams. Nonetheless, the performance criteria applicable to face-to-face teams are not necessarily the same for GVTs, since they ignore the main features of
superiority of GVTs. Any performance criteria should take into account the main driving forces behind migrating from face-to-face teams to GVTs and evaluate how successful they have been in fulfilling the central requirements expected from a GVT (Schweitzer and Duxbury, 2010). We argue that supervision and performance measurement aspects of GVTs are intertwined and correlated with the variable of management method, leadership style, and auditing method which hitherto all are the matters of debate within the existing literature (Hertel et al., 2005). Nonetheless, all GVTs are a subcategory of teams (Schweitzer and Duxbury, 2010) and like any team the performance is of outmost importance (Paris et al., 2000). Likewise, one of the main contributors to performance of team is the effective control and monitoring form of mutual performance monitoring or through managerial control mechanisms (Hackman, 1990). Therefore, performance measurement and control remain to be among the main aspects of managing GVTs.

4.4 Team development in GVTs

Developing trust amongst the members in GVTs is most frequently addressed in existing literature. It is because trust among the members affects the performance of GVTs noticeably (Henttonen and Blomqvist, 2005; Malhotra et al., 2007; Khan, 2012). These studies have shown that the trust development mechanism (Kanawattanachai and Yoo, 2002) and the level of its impact on the performance (Jarvenpaa et al., 2004) changes in different stages of the GVTs’ lifecycle and is correlated with the cultural background of the members (Yusof and Zakaria, 2012). Some authors, e.g., Alawamleh and Popplewell (2012) have postulated that lack of trust between the involved parties might hamper every aspect of the virtual working. The authors of the former paper conjectured that parties not trusting each other literally do not work to promote the virtual structure. Nevertheless, there is inconsistency amongst the findings of studies pertaining the level of effect of trust on performance of GVTs (Martins and Schilpzand, 2011; Al-Ani et al., 2013). On the other hand, some findings showed that the level of trust increases over time as the team works regardless of other factors affecting the team (Daassi et al., 2006).

When it comes to other features of team development, there is a consensus on the primacy of training and education in GVTs. This belief has roots in obvious positive relationship between the training of team members and the performance of the team by enhancing the abilities of team members in many directions such as utilising ICTs (Kayworth and Leidner, 2000; Grosse, 2002; Assudani, 2007). In addition to technical matters the training plan should entail strengthening the cohesiveness and working relationships between team members along with hastening settling cultural-based conflicts (Anderson et al., 2007; Fuller et al., 2007; Anawati and Craig, 2006; Hill, 2007). Lumsden et al. (2009) put forward the theory of ever evolving training needs of GVTs due to the dependency of training on the very conditions dominating the team. Other authors (Hertel et al., 2005) have argued that a noticeable correlation between training in GVTs and their effectiveness is not observable specifically in training programmes using ICTs as the media (Martins and Schilpzand, 2011). As a result, defining the best methods of training for each phase of the lifecycle of the team, along with selecting the best technological tools for training is another area in need of full attention by managers of GVTs.
4.5 Communications management in GVTs

Some recent studies have revealed that GVTs should spend a large amount of resources for coordinating their work in order to understand the messages exchanged and coordinate the tasks using ICTs as the available channel for literally all the communications (Maynard et al., 2012). Hence, communication management presents one of the challenges managers of GVTs have to face even if they deploy the most advanced technologies (Walvoord et al., 2008; Rosen et al., 2007; Lin et al., 2008; Duarte and Snyder, 2006; Goodbody, 2005). However, the communication channel characteristics namely the type of ICTs has a great impact on the richness of the knowledge exchanged (Malhotra and Majchrzak, 2012; Jiang and Zhao, 2012) by engaging wide range of external parties and crossing many borders (Hrastinski et al., 2012). Selection of the best communication tools and devices for any specific GVT should be based on the level of familiarity of the members, functionality and practicality of the communication tools (Zaugg and Davies, 2013). According to Alawamleh and Popplewell (2012, p.20), “the less the communication the more the uncertainty” in virtual context.

Another issue is that each GVT sets unique patterns and intends to use specific communication tools. Interestingly, studies have shown that changing the pattern and the tools after establishment in initial stages will take a lot of effort. Therefore, putting in force appropriate norms, strategies and using fitted technology for communications at inception of the work affects the performance of GVTs (Martins and Schilpzand, 2011; Huysman et al., 2003). Some scholars have advocated communications management strategies such as organising face-to-face meetings in suitable junctures. They believe that the foregoing policies would enhance the communications and develop trust (Pauleen, 2003), and lessen the communication issues (Kayworth and Leidner, 2000; Ramesh and Dennis, 2002). Conversely, some researchers enunciated that face-to-face meetings exacerbate the cultural conflicts and might adversely influence the communications (Bjørn and Ngwenyama, 2009). In addition, studies have emphasised on the positive impact of non-job-related communications between members in GVTs (Hertel et al., 2005; Martins and Schilpzand, 2011) as these sort of communications would have great influence on the performance of GVTs (Shin, 2005; Lin et al., 2008) particularly in terms of developing cohesion (Powell et al., 2004). Managing the communications and information sharing aspects of GVTs have specific complications and are affected by many variables (Bosch-Sijtema, 2004; Feng and Yue, 2011). In addition, any communication management policy is related to other features of managing GVTs.

5 Collective effects of all constructs of managing GVTs

Presumably, members from different nationalities, various organisational backgrounds unite in a GVT for performing mutual tasks in which they lack a common language and agreed acceptable behavioural patterns (Gudykunst et al., 1988; Pinjani and Palvia, 2013). Their understanding of the occurrences and other’s reactions is not similar and might be to some extent misleading (Shachaf, 2008). They struggle to coordinate the tasks, distribute the works, settle the conflicts, and implement the shared rules. Figure 1 illustrated the constructs of the management of the GVTs as a working hypothesis.
A conceptual meta-framework for managing multicultural GVTs

Micro-conceptual framework (Shields and Tajalli, 2006) which is the first necessary step towards creating knowledge (Handfield and Melnyk, 1998). Accordingly, all the constructs are internally correlated in managing GVTs depicting the nature of relationships dominating the constructs as the next step towards theory building (Whetten, 1989).

GVTs are simultaneously affected by the collective effect of all the construct of managing GVTs as shown in Figure 1. On the other hand, extant literature has proposed contradicting hypotheses to explain the direction and the level of effect the foregoing constructs have on GVTs outcomes (Shachaf, 2008). Moreover, each of the abovementioned constructs are able to act as a double-edged sword positively or negatively affecting the outcomes of the GVTs (Shachaf, 2008). For example, some studies have shown that by utilising appropriate ICTs tools, many conflicts and misinterpretations stemming from the cultural diversity of members would be alleviated and settled. Nevertheless, the media selection itself is affected strongly by the culture of people utilising it (Shachaf, 2008). Members of GVTs should willingly recognise ICTs as the main communication channel. Hence, the technology acceptance and the typology of technologies fitting the specific cultures in a GVT are the influential variables affected by the cultural diversity and in GVTs. Seemingly, it takes a multidisciplinary approach to address the issue. The theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2012) and technology acceptance model (TAM) (Lai and Li, 2005) have defined the factors affecting the technology implementation. Many papers have investigated the effect of culture on accepting technology (Im et al., 2011, 2008) and the direct effect of task type and national culture has been endorsed by researchers (Venkatesh et al., 2012). On the other hand, leadership style, control and supervision methods, and team development policies are affected by each other and other constructs of managing GVTs. Therefore, in order to have the highest possible performance for GVTs, we argue that the managers face the demanding task of harnessing the capabilities of ICTs for mitigating the adverse effects of cultural differences between the members. They also should select leadership styles, control methods, and team development policies consistent with each other and appropriate for the cultural diversity. All these constructs should eventually comply with the fact that ICTs are the main channel for all communications. Meeting these objectives encompasses staffing considering compatibility of cultures, selecting the ICTs tools willingly accepted by the members. It is followed by making decision for choosing the best configuration of media channels and team development policies, which are able to alleviate the cultural conflicts between members effectively. All the above decisions should be taken based on an integrated sequential procedure considering the initial pre-determined objectives behind embarking on using the GVT and requirements of the stakeholders as described in the following sections.

6 Discussions

Seminal works in GVTs have emphasised on the primacy of the right fit between the type of communication media selected and tasks defined for GVTs (Hertel et al., 2005). In addition, some scholars have stated that using ICTs alone will not be an effective tool on GVTs performances. Thus, the final outcome strongly rests on the proper fit to the objectives defined for communication (Maznevski and Chudoba, 2000).
When it comes to the effect of the culture on the performance of GVTs, some configurations of different cultures would be advantageous for GVTs. As an example, individualistic cultures might help to cope with isolated work conditions while collectivistic cultures might help with actively overcoming isolation by seeking contacts with other team members. Hence, the cultural compatibility is a selection criteria for members of GVTs and is one of the measures of tackling the challenges of cultural conflicts in GVTs (Hertel et al., 2005) and even some web-based tools for selecting compatible team members have been introduced (Hertel et al., 2006). Many treatises have highlighted the effect of consistency between technological tools on the performance of GVTs (Cao and Dowlatshahi, 2005). An example is the technology alignment hypothesis proposed by Bjørn and Ngwenyama (2010). The authors of the mentioned paper maintained that applying technologies is not just a process of providing GVTs with ICTs tools since it takes serious considerations for selecting the fitted technology. It is because all the foregoing features have strong correlations with the socio-emotional characteristics of the members as well as with the type of tasks defined for GVTs and all affect the performance of GVTs noticeably.

Seemingly, the collective effect of different constructs of managing GVTs aims for a coherent system, which defines the outcome and performance of GVTs. Therefore, despite the complexities attached to managing GVTs, managers are still capable of designing the best configuration for the team by taking into account the collective effect of all the constructs contributing to the effectiveness of managing GVTs. However, many variables affecting the GVTs are practically beyond the boundaries of the control of the managers. We would describe that task of the GVT manager as completing a puzzle in which characteristics of some of the fitted elements are available based on the organisational goals defined for GVTs. Therefore, the GVTs management role encompasses selecting the elements compatible with the current pre-defined conditions taking into account the collective effects of all the elements and the necessity of compatibility between them. Presumably, the leadership style and accordingly the control policies are selected based on the conditions of other constructs in the GVT. The selection of the best fitted variable in order to have the highest practicable performance in GVTs takes awareness of the exact status quo of other influential factors and variables which some are defined in stages before establishing the GVT such as the stakeholders’ requirements. We are of the view that managing a GVT resembles following a sequential procedure. In our hypothetical procedure, outcomes of selection of variables in each step will be the successive stages inputs and define the fitted elements of the following stage. Briefly, the subject of interest of managerial decisions in each stage includes selecting variables considering compatibility of them with attributes of variables selected in the previous stage. The following section proposes a general procedure for GVT managers in a systematic procedure in order to implement the most appropriate managerial and leadership strategy for the specific conditions of any GVT.

7 The integrated conceptual meta-framework for managing GVTs

Taking into account all the above discussions and assumptions, deploying an appropriate integrated framework for organising further investigations into procedure for managing GVTs is a necessary step (Meredith, 1993; Caya et al., 2013). If we consider managing GVTs as the phenomenon of interest, the conceptual framework will act as the
centrepiece and the director of all potential future research on the subject (Shields and Tajalli, 2006). As pointed out by Whetten (1989) the first building block of the theory should be the constructs that explain the phenomenon under investigation which we developed in Figure 1 titled by some studies as the working hypothesis micro-conceptual framework (Shields and Tajalli, 2006). The next step involved description of the relationship between constructs of the phenomenon (Whetten, 1989) in which we spotted the gaps of knowledge and defined the ambiguities within the extant literature along with defining the typology framework for the constructs (Carlile and Christensen, 2005). As the area is in need of creating knowledge, a framework needs to be developed for directing the further research and facilitating building necessary theories regarding the subject of interest (Carlile and Christensen, 2005; Shields and Tajalli, 2006). On the other hand, managing GVTs is under the collective effect of several constructs. Therefore, the framework will be a hypothetical meta-framework as the outcome of the integration of previous hypotheses (Meredith, 1993). Figure 3 illustrates the proposed framework consisting of the following main stages:

Step 1  \textit{(Selecting key members):} The key members of the GVT are nominated and selected in alignment with the tasks considered for the team dictating the essential technical skills. Organisational objectives, cost savings and the working environment conditions such as the availability of the human resources will affect the selection of key members in GVTs.

Step 2  \textit{(GVTs configuration):} Designing the team based on the attributes of the key members is the next step. Other members will be chosen from cultures and by attributes compatible with the key members. This stage should be pursued considering all the factors affecting the establishment of a coherent team capable of settling conflicts and develop trust internally.

Step 3  \textit{(Selecting effective managerial policies):} Considering the team configuration, manager will select and implement the most effective policies of managing GVTs will be as different packages. The packages will be implemented during the lifecycle of the team based on the variables set in previous steps and the current condition of the GVT. Therefore, literally managing GVTs is a dynamic procedure affected by many variables all internally correlated. It is because as GVT proceeds in its lifecycle, the requirements of the team such as the type of communications and team development necessities change (Lumsden et al., 2009). Hence, the managers should implement the fitted package for consecutive timely cross-sections in a GVTs lifecycle. Although we do not intend discussing the package ingredients in detail, we have illustrated the constructs of the packages in Figure 3 as the below items.

- fitted media
- leadership style
- supervising strategy
- control style
- communications management
- team development policy.
We argue that managing a GVT during its implementation is a package including all the constructs while which construct influences the other elements of the package and their collective effect as a coherent whole determines the performance of a GVT. In the selection of the unique package, some influential variables are beyond the control of the manager and traditionally are on the discretion of higher-level managers of the GVT. In addition, some decisions face limitations. For example, the type of skills required (Hunsaker and Hunsaker, 2008), the availability the skills, and cost and revenue policies
A conceptual meta-framework for managing multicultural GVTs

of the organisation confines the key members selection options. We also argue that there is one unique package of managerial policies for the predetermined GVT configuration and conditions in each time. This is the only package that culminates in the highest possible performance. The package of managerial policies of GVTs entails defining all the necessary features of management, leadership, supervision, team development, and communication management.

It is worth noting that Figure 3 only illustrates a summary of the processes and issues incorporated as the representative of some of the aspects of managing GVTs in order to shed some light on the general philosophy behind the conceptual meta-framework.

8 Conclusions

The increasingly implementation of GVTs in wide range of industries and the conditions hastening the migration of organisations to GVTs were discussed to clarify the driving forces behind the necessity of investigation into GVTs requirements. The literature review findings showed that there are some specific requirements as the prerequisites of success for GVTs. One undeniable requirement is implementing effective management for GVTs. However, the managerial policies developed for face-to-face teams are not necessarily applicable to GVTs (Hosseini and Chileshe, 2013a) and might be even misleading. This theory advocated for in the literature, necessitates creating knowledge on management of GVTs. We developed a working hypothesis in format of a micro-conceptual framework reflecting the constructs of managing GVTs effectively. The literature review showed that there is lack of a holistic approach towards managing GVTs. Hence, this paper attempts to integrate all these related factors through a conceptual integrated meta-framework aimed at resolving the issues associated with the management of GVTs. The hypothesis of the proposed meta-framework is the necessity of utilising the most appropriate packages of managerial policies in each stage of the GVTs lifecycle.

9 Limitations

The major limitation of this study is the necessity of validating the conceptual framework presented as the findings of this paper. Although the framework is grounded on a broad review of the literature, many aspects of GVTs are context-based and rely on the specific conditions of the industry and the nature of the tasks defined for the team. Therefore, the conceptual framework presented should be validated utilising the information from the specific context that the framework is supposed to be implemented in.

Another limitation facing this study concerns the conceptual definition of the GVTs deployed to present the discussions. The shift in the literature towards using the dimensions of virtuality to delineate different levels of virtuality in teams were not considered in this study. Hence, the findings of the study merely are applicable to GVTs with high degrees of virtuality as another limitation of the current paper.
10 Implications

Despite the limitations facing the study as discussed in the above section, the study provides profound implications for structures or organisations working with teams in virtual contexts. Firstly, the study defines the main challenges for managers of GVTs as opposed to many studies referring to large number of issues for managers of GVTs. Managers could focus on the defined aspects of managing GVTs as their priorities for fulfilling the requirements of managing GVTs effectively. Secondly, the main critical success factors for effective GVTs are ascertained and described in an understandable manner. On top of that, the crucial role of addressing the issues of managing GVTs by taking an integrated approach is stressed. The findings imply that dealing with the challenges concerning management of GVTs would not lead towards success without considering all the issues as a coherent whole. Any remedial solution for any of the challenges mentioned should be selected taking into account the influences of the other factors and the effects of the aspect in question on other dimensions of managing GVTs.

Furthermore, the study discusses the factors to be considered prior to implementing GVTs in organisations as step 1 (see Figure 3). This has major implication for the body of knowledge as the stages before implementing GVTs in organisations namely the decision-making procedure for adopting GVTs are literally overlooked in the extant body of the knowledge.

11 Future work

The meta-framework presented in this study based on regarding the management of GVTs as a process of dynamic packages selection provides the future researchers with a fertile ground in this field. This is because the previous studies have considered all the managerial aspects of GVTs as isolated concepts and have investigated them individually without considering the interrelations. The future research should focus on selecting the best management policies through the lenses of a holistic approach. All constructs affecting GVTs are correlated matters influencing each other and the whole system. Therefore, future research opportunities exist to clarify the degree of correlations between the constructs affecting the performance of GVTs.

As many of the constructs are from multiple disciplines, it is imperative to consider a multidisciplinary approach towards selecting the best strategies of managing GVTs in future research endeavour. This includes taking into account the effects of innovation diffusion, change management, knowledge management and other management systems as an integrated management system. Validating the framework presented and empirical investigations on the veracity of the constructs and ascertaining variables making up the constructs are other grounds available for further investigation. Hence, another door open for future inquiries is conducting studies geared towards validating the presented model in different contexts and for different degrees of virtuality.
References


Booth, B. (2011) Examining the Critical Factors of Success in Virtual Team Performance, PhD 3442987, Northcentral University.


Booth, B. (2011) Examining the Critical Factors of Success in Virtual Team Performance, PhD 3442987, Northcentral University.


A conceptual meta-framework for managing multicultural GVTs


