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Discovering dynamic Virtual Team determinants through an interpretivist philosophical framework

Research-In-Progress

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Abstract

Until recently most research has not been able to provide a consolidated view of all determinants that influence Virtual Teams (VTs). With increases in VT adoption a comprehensive approach is required to develop an understanding of new possible related determinants.

A qualitative interpretivist approach is proposed as the underlying philosophy for this research project to allow for a more in-depth examination of the socially constructed subjective reality of participants. An examination of participants' realities could provide a systematic view of new possible determinants that are relevant to VTs. Participants will be employees in VTs and will participate in semi-structured interviews across three phases throughout their membership in the team. Systematic analysis is proposed to take place as data is collected, with interviews conducted when the participant joins the team, mid-way through their team membership, and at the end of the team's lifespan or the study.

To ensure adequate data is captured, saturation calculations will take place alongside purposive sampling. All interviews will be recorded via an online platform and stored securely to ensure the integrity of the study. This will also ensure that coding and categorisation of activities can occur systematically.

Findings from this research could provide new avenues for determinant analysis of VTs in the literature. The research output can also be used to assist practitioners to implement policies that will improve VT performance.

Keywords Virtual Teams, Determinants, Methodologies, Research Philosophies, Grounded Theory.

1 Introduction

Research has noted that those engaged in Virtual Teams (VTs) are faced with challenges not typically experienced in traditional or co-located teams (Alaiad et al. 2019; Dulebohn and Hoch 2017; Großer and Baumöl 2017; Liao 2017). Examples of these challenges that researchers have identified include trust (Cummings and Dennis 2018; Maes and Weldy 2018) and communication (Fay 2011; Ortiz de Guinea et al. 2012), with both examples being critical components influencing the overall success of VTs. Until recently most literature has only provided isolated analysis and meta-analysis studies, opting to investigate specific determinants or groupings. The gap created by the previous foci of researchers has led to the following research questions being formed: “*What are the set of determinants influencing Virtual Teams?*”, “*How do Virtual Team determinants influence each other?*” and, “*What conceptual model depicts the interplay of determinants in Virtual Teams?*”

Analysing this area of the literature, a distinction is drawn between domestic VTs and Global Virtual Teams (GVTs). Focus has been drawn to domestic VTs so factors relevant to GVTs do not confound potential models or results, though the approach within this paper could be applied to GVTs.

2 VT Definition & Approach

An increase in the adoption of VTs can be traced through the literature along with the use of multiple names, including; telework (Charalampous et al. 2018), telecommuting (Bentley et al. 2016), mobile work (Makarius and Larson 2017), and remote working (Dennis et al. 2008). Noting differing terms and that the terminology is at times used interchangeably, this research project will adopt the following definition of a VT. A team that operates independently of geographical, temporal and organisational boundaries, and that utilises Computer Mediated Communication (CMC) technologies as the medium of communication (Alaiad et al. 2019; Bentley et al. 2016; Charalampous et al. 2018; Dulebohn and Hoch 2017; Großer and Baumöl 2017; Kramer et al. 2017; Liao 2017; Makarius and Larson 2017; Stowell and Cooray 2017; Suh and Lee 2017). This term reinforces that all of the boundaries are present in the team, aligning with other researchers who have selected similar criterion (Chang et al. 2011).

This research will seek to expand on what previous studies have identified as possible determinants and map these into an Input-Process-Output (IPO) model. In the first instance, existing models will be examined to determine their suitability for inclusion (Alaiad et al. 2019; Dulebohn and Hoch 2017; Hoch and Dulebohn 2017; Liao 2017) and identify the gaps between these extant models. As the research progresses, the framework defined in the following sections will be used to validate, and either add to or reconceptualise a model for VT determinants influencing performance. It is expected that existing determinants will be re-examined for continued applicability, with an increased scrutiny into less researched determinants such as the role of legality (Roehling 2017).

This current gap within the literature also relates to the need for more longitudinal studies to validate a dynamic VT determinant model (Bentley et al. 2016; Grant et al. 2019; Hunton 2005; Im et al. 2005). This extends not only to the way in which determinants are currently identified and how their influence is understood, but also to a lack of a model that can account for differences between different stages of a VT lifespan. Evidence for this gap both in determinants as well as models has been highlighted by research indicating that often the depth of current literature should extend beyond static conceptualisations (Maruyama & Tietze, 2012), highlighted by themes such as trust (Alaiad et al. 2019; Chen and Chen 2009) and leadership (D’Innocenzo et al. 2014). Previous research has further highlighted that the static versus dynamic conceptualisation is not limited to concepts like leadership and trust, but also how the need for certain electronic mediums change over time (Dennis et al. 2008).

3 Research Philosophy

Research outcomes can be significantly influenced depending on how certain theories are adopted and applied (Bates and Jenkins 2007). To ensure a robust philosophy is adopted, researchers should consider: ontology, to frame an understanding of the nature of social reality; epistemology, to understand knowledge and how knowledge is gathered (Grix 2002); and finally axiology, to understand value and how society perceives value (Biedenbach and Jacobsson 2016).

An interpretivist approach is the philosophical position that will be adopted. Reaching this conclusion, four philosophical positions were examined: positivist, interpretivist, critical theory and

deconstructivist (Sipe and Constable 1996). The research area drives a need to understand the dynamic nature of the participants' or social actors' socially constructed realities, aligning to an interpretivist philosophy (Gephart Jr 2004). A deconstructivist philosophy was not selected as this research seeks to understand the nature of determinants according to the social reality of the participants' rather than to define an objective reality that actors operate within.

4 Methodological Choice

The methodological choice to be adopted within this design is Constructivist Grounded Theory (Bryant and Charmaz 2007; Charmaz 2006; Charmaz and Belgrave 2015). The choice was influenced by the interpretivist philosophy, as it best suited construction of a potential new model regarding VT determinant conceptualisations. Previously trust was viewed as a static concept rather than a dynamic concept (Alaiad et al. 2019; Hacker et al. 2019). Similarly, virtuality has begun to be conceptualised as a form of team design placed along a continuum (Großer and Baumöl 2017; Hosseini et al. 2018) or a moderating variable applicable only during phases of work (Schaubroeck and Yu 2017). These ideas begin to shift the concept of virtuality beyond a static notion of identifying if a certain technology is present or not (Hacker et al. 2019). Forms of Grounded Theory can be seen as a dominant qualitative approach across many disciplines, reinforcing this selection as the most appropriate (Walsh et al. 2015), because of the social setting of this project (Pauleen et al. 2007).

Semi-structured interviews are commonplace in VT research (Broadhurst et al. 2001; Formánková and Křížková 2015) and have been selected as they are typically used in qualitative studies for their ability to facilitate dialogue (DiCicco-Bloom and Crabtree 2006). This approach will ensure an appropriate level of rigour while exploring determinant concepts adequately (Aldiabat and Le Navenec 2011).

5 Ethical Considerations

Researchers ask whether the issue proposed to be investigated is significant enough to investigate (Knottnerus and Tugwell 2018) and whether the 'do no harm' principle can be adhered to (Hibbin et al. 2018). Researchers should be cognisant that no study has 'no foreseeable risk' to the participants or researcher but rather there is always some level of 'negligible risk' (Council; et al. 2018).

To guard qualitative researchers against risk, research reinforces the importance of effective risk management practices (Bloor et al. 2010). For this study, specific mitigations have been developed to assist in creating an effective risk management approach. It should also be noted that this research will not be conducted with traditionally described vulnerable groups; however, it is recognised that literature highlights vulnerability as a dynamic concept. In conjunction with the above mitigations no data collection will take place prior to University ethics approval being received.

6 Proposed Data Collection Considerations

Sampling is necessary when collecting data for research (Badu et al. 2019; D'Innocenzo et al. 2014; Solís 2016; Suhonen et al. 2015). For data collection to be successful there needs to be adequate preparation (Badu et al. 2019). Part of the preparation includes ensuring there are systematic processes in place to record the collection procedures as well as suitably developed collection protocols, both of which are integral to qualitative research (Ranney et al. 2015). Screen recording software will also be used (Heycke and Spitzer 2019). Recording interviews, with participant consent, will increase inter-rater reliability (Hinz et al. 2014).

Semi-structured interviews avoid the issues associated with web surveys, which primarily centres around data quality (Burkill et al. 2016). The Interview Protocol Refinement (IPR) process will be followed to improve collection quality (Castillo-Montoya 2016). NVivo has been selected because it has been used in previous studies (Hosseini et al. 2018) and has the ability to quickly validate results. It is important to note that given a Constructivist Grounded Theory approach will be adopted, NVivo will be used to collate the data and validate the coding activities completed, rather than replace the typical manual coding completed under Grounded Theory approaches.

The participants from domestic VTs will be sourced through their Human Resource department or appropriate representative to ensure there is a suitable workplace and confirmed employment.

Purposive sampling will be used to identify participants so that actual employee realities can be investigated and possible models are an accurate reflection of the VT worker population (Robinson 2014; Topp et al. 2004). The concept of saturation, as introduced by Glasser and Strauss (1967) (Guest

et al. 2020), will be used to determine at what point no new information is being gathered. Data will be collected throughout 2021 and 2022, across three phases: Interview One, will take place as the participant joins the VT and is in the first stage of team membership. Interview Two, will take place as the participant reaches either the mid-point in the life of the study or the mid-point in the life of their membership with the VT. Finally, Interview Three, will take place as the team member leaves the VT or when the study is in the final stages of its lifespan.

During each phase, data will be analysed, via a constant comparative method (Chun Tie et al. 2019; Glaser and Strauss 2017), as per the Constructivist Grounded Theory approach, to begin forming concepts and the grouping of connected codes. In this way the collection and analysis of data avoids one of the pitfalls identified in the literature, which is the sole use of coding and neglecting the true purpose of this approach to generate and build theories (Urquhart et al. 2010). Grounded Theory can also be useful beyond developing theories and contribute to the discipline widely (Wiesche et al. 2017).

To ensure that the data collected is valid and reliable two quality control processes will be implemented. First, copies of each transcript will be provided to the relevant participant after each interview, and any corrections will be made to ensure that the recorded transcripts are accurate reflections of interviews. Second, another researcher will participate in the coding of an initial interview, as part of an investigator triangulation activity (Archibald 2016; Carter et al. 2014). As multiple researchers agree on coding results, reliability and validity are thereby increased.

7 Proposed Data Analysis Considerations

Research identifies that a Qualitative Action Plan may be required for larger scale research projects (Yang et al. 2018); however, the modest size of this study means such a plan has not been included. Following a robust framework, the typical analytical stages will be adopted including; coding, developing potential themes, checking, categorising and developing narratives from inquiry (Bryant and Charmaz 2007; Charmaz 2006; Charmaz and Belgrave 2015).

Future research will be needed to assist with beginning to explore the newly developed concepts in additional contexts to confirm applicability. Data analysed and determinants that emerge may also be used to develop a taxonomy. Care will be taken to avoid replicating taxonomies of trust related events, as this is a growing area of the literature already (Breuer et al. 2020).

8 Data Presentation Considerations

An analytic story lining approach will be adopted, which uses words such as “it involves”, “when”, “by”, “occurs if”, to show the evolution of events through time (Charmaz 2006). Extracts will be used to represent how a thematic code was identified using styles per the literature (Prior 2018; Sampson and Johannessen 2020). For example:

“I found this difficult and never really trusted others unless they proved I should.”

Taking this approach will ensure that the identification of determinants, possibly as they evolve over time, as well as between each phase, is captured and presented in a more natural manner.

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