An Investigation into Remote Leadership and Effectiveness of Technology in Leading Employees in Virtual Teams

Patrick English

Dissertation Submission in partial fulfilment for the award of

Master in Business Administration (MBA)

National College of Ireland

Submitted to the National College of Ireland, August 2017

Abstract

Patrick English – An Investigation into Remote Leadership and Effectiveness of Technology in Leading Virtual Teams

The purpose of this research is to complete an investigation into remote leadership and the effectiveness of technology in leading employees who work in virtual teams. This study focuses on the challenges presented to leaders in organisations where teams are unable to have face-to-face interaction primarily due to multi regional locations. It will also review the impact technology is currently having on leadership. The research process used to gather and collate information is that of semi-structured interviews with ten current Hewlett Packard employees. The participants were selected from a cross functional multi locational Supply Chain encompassing employees from Ireland, Singapore, Malaysia and Corvallis (USA).

Qualitative research was chosen as the research method for this study as the interviewer perceived it provided the flexibility required to gather the best data to capture the perceptions and experiences of the employees in the company during the time period allowed. The interviews were in a semi-structured format. Bogner, Littig, & Menz (2009), suggested that interviews were a very effective method to use when collecting data for qualitative research. They provided the interviewer the flexibility to customise specific questions that were of interest to this research and the ability to probe a deeper opinion from participants if required.

Once the data was captured the interviewer was able to use a comprehensive and systematic approach to analyse the data as suggested by both (Patton, 2015) and (Silverman, 2016) to create findings, conclusions, recommendations and suggestions for further research.

Submission of Thesis and Dissertation

National College of Ireland

Research Students Declaration Form

(Thesis/Author Declaration Form)

Name: **Patrick English**

Student Number: 95003854

Degree for which thesis is submitted: Masters in Business Administration

Material submitted for award

(a) I declare that the work has been composed by me.

(b) I declare that all verbatim extracts contained in the thesis have been distinguished by quotation marks and the sources of information specifically acknowledged.

(c) My thesis will be included in electronic format in the College

Institutional Repository TRAP (thesis reports and projects)

(d) *Either* *I declare that no material contained in the thesis has been used in any other submission for an academic award.

Or *I declare that the following material contained in the thesis formed part of a submission for the award of:

_____

(State the award and the awarding body and list the material below)

Signature of research student:

Date: August 29th, 2017

Acknowledgements

I would like to thank all the staff at the National College of Ireland (Administration and Academic) for the support they have shown me throughout the duration of this course and in particular to Professor Jimmy Hill for his availability, flexibility and guidance over the final hurdle. His support on the dissertation was invaluable.

To my friends and colleagues at Hewlett Packard Inc and friends in Hewlett Packard Enterprise who contributed with enthusiasm as interviewees for the primary research section of this study, I am very grateful.

Finally, I would like to thank my family and Katie in particular for her unwavering belief and encouragement provided on our MBA journey, as I know I could not have completed it without her support.

To all of the above, I extend my gratitude.

Table of Contents

List of Tables

List of Appendices

Chapter 1.   Introduction

For many decades, Leadership has been the subject of published research and it is universally accepted as one of the most highly sought-after commodities. Mullins (1995) described Leadership as an "Inspirational process" implying leaders are key influencers in implementing change. Yukl (2013) also expressed in detail the many forces of change in Leadership- internal or external and highlighted that with continuous changes in politics and the advancement of technology, organisations need to be very flexible in their ability to accommodate a constant cycle of change. This is particularly important for companies who operate globally. The challenge is even greater for leaders of global organisations to measure their effectiveness when they are not physically present in many of the locations.

A number of academics have discussed the challenges of Virtual Leadership such as (Slade, 2015) details the core competencies required to be an effective virtual leader are more than those required of a traditional leader. The author suggests there is a greater requirement for leaders to provide increased psychological needs; she identified three in particular that require special focus, competence, relatedness and autonomy. The author also suggests that in addition to addressing these psychological needs, it is imperative that a leader has the ability to create a shared vision in which all employees in the organisation not only understand the shared vision but also are accepting and committed to it.

Duarte & Snyder (1999) stated that leaders of organisations that do not use virtual teams effectively are fighting an uphill battle to remain competitive in a rapidly changing global environment. The author also argues that the ability to work in the virtual workplace is now a fundamental competence for all employees. This is supported by (Earley & Gibson, 2002) as they explained that multinational work teams are more complex than the traditional work teams as they are highly diverse and as result global organisations need to find an equilibrium between cultural differentiation and organisation integration.

 The authors of "The Impact of Emergent Virtual Leadership Competencies on Team Effectiveness" (Ziek & Smulowitz, 2014) revealed that one of the main limitations of their study was the fact that its sample was taken within a university and that as a

consequence students may not accurately reflect the actual virtual workspace. Pullan (2016) argues that currently the greatest challenges facing Virtual Leaders is to create and maintain an engaged workforce in particular during meetings where key information is being communicated, if you cannot engage participants at that point it is very unlikely that the information /direction shared will be used or implemented afterwards.

The Researcher's intention is to carry out a detailed overview and analysis of the literature on Leadership Theory with a specific focus on how that literature is applicable to Remote Leadership and technology effectiveness in leading Global Virtual Teams (GVT) with reference to teams who have to function without physical presence of management. The Researcher is currently employed by Hewlett Packard InkJet manufacturing operation in Ireland and has a Global Procurement role with access to peers who are willing to participate in the study located in 4 different countries on four different continents,

- HPI Corvallis (USA)
- HPI Leixlip (Ireland)
- HPI Manufacturing in Penang (Malaysia)
- HPI Manufacturing in Singapore

This study's scope does not intend to focus purely on global roles but also consider virtual teams, which operate locally in Irelands technological advances have facilitated many departments in operating outside the traditional workspace. Both open plan "hot desk style" office space and "Working from Home" (WFH) policies are common in many organisations and these groups must be included in the study as they do not have a management presence in their day-to-day roles. The researcher has also identified two recent Irish dissertations, which are relative to this research and intends to build upon their findings.

An investigation into employee's perceptions of working from home and how this impacts work-life balance was carried out by (Muldoon, 2014) On completion of her study she expressed that while her research is comprehensive there was however some limitations to the study. For example, 80% of sample questioned were female and the majority worked from home <2 days a week so also had a presence in the traditional

workspace. The study excluded employees who WFH most or all of the time or who were part of a Global Virtual Team. Muldoon did recognise this and highlight this as an area for future research and recommended that Management needed to improve the measurement of productivity for employees who WFH. In her research, she also suggests that these employee's actually work harder for the organisation when not in the office but this was not captured/recognised.

McSweeney (2016) completed a study that investigated the impact of follower behaviours on leadership effectiveness in global virtual teams and this provided an excellent insight into the adoption of Global Virtual Teams (GVT) as more and more organisations now need to have a global presence. The research provides an excellent foundation to complete further study as he recommended a focus on a broader culturally diverse sample, as his study was specifically tailored towards IT professionals in the field of Healthcare within one company. In 2016 a fourth, biennial global vertical team survey was produced and published by (CultureWizard, 2017). This report contains survey data from 1,372 respondents across eighty countries. One of the more significant data points is the rapid increase in virtual teams for example in 2012, 33% of virtual teams had members located in a different country. Five years later there has been a 15% increase as 48% of virtual teams had members in a different countries. This is creating new challenges for business leaders and technology.
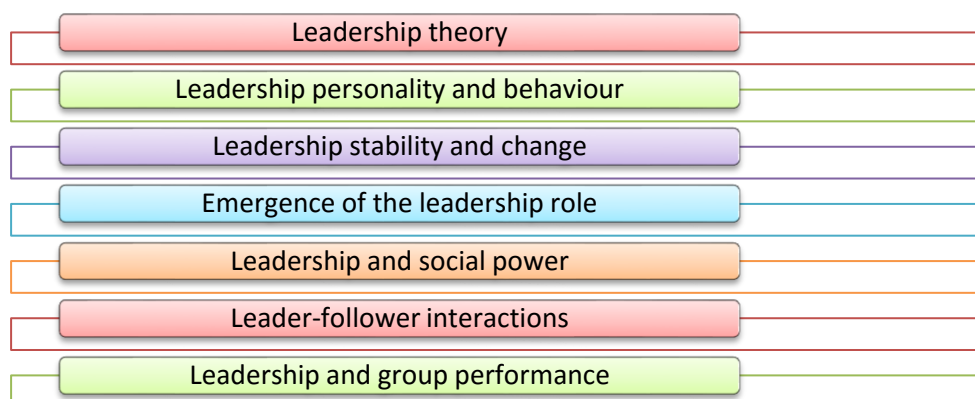
Chapter 2.   Literature Review

2.1   Introduction

There have been a number of recent studies, which have focused on how best to structurally set up Virtual Teams from a leader and follower perspective. On review of the literature, it became apparent that there was an opportunity to complete further research specifically focusing on the challenges and opportunities to remote leadership from an Irish context and how businesses in Ireland effectively lead their multicultural teams without the physical presence of management. This literature review will discuss the themes and objectives as per the research aims and is divided into the following sections: Leadership, Globalisation, Technology, Virtual Teams and Virtual Workspace. Each section discusses and analyses previous research related to the heading.

2.2   Leadership

Leadership Theory is a hugely popular topic of research. The word 'lead' derives from the Anglo-Saxon meaning of a journey, road or a way. Therefore leading is the moving of something or someone from one place to another or from one situation to another. Moving means a change so Leadership implies a person or group who leads change. In the early 1970's Ralph Stogdill carried out a comprehensive study which reviewed over 3000 books and articles on the subject of leadership. The results of this study were published in a book titled "The Handbook on Leadership" (Stogdill, 1974) and the author presents a number of topics that include:

- Leadership theory
- Leadership personality and behaviour
- Leadership stability and change
- Emergence of the leadership role
- Leadership and social power
- Leader-follower interactions
- Leadership and group performance

The concept of leadership had discussed by many in great detail and (Bass & Stogdill, 1990) published additional research on managerial applications over the last fifty years resulting in a clear differentiation between the transactional and transformational leadership models. Handy (1993) provides his own definitions of leadership which suggests a leader shapes and shares a vision which gives point to the work of others. Armstrong & Taylor (2017) suppose that Leadership means inspiring people to do their best to achieve a desired result.

The graphic below sourced from (e learners - History of Leadership, 2017) plots the evolution of leadership.
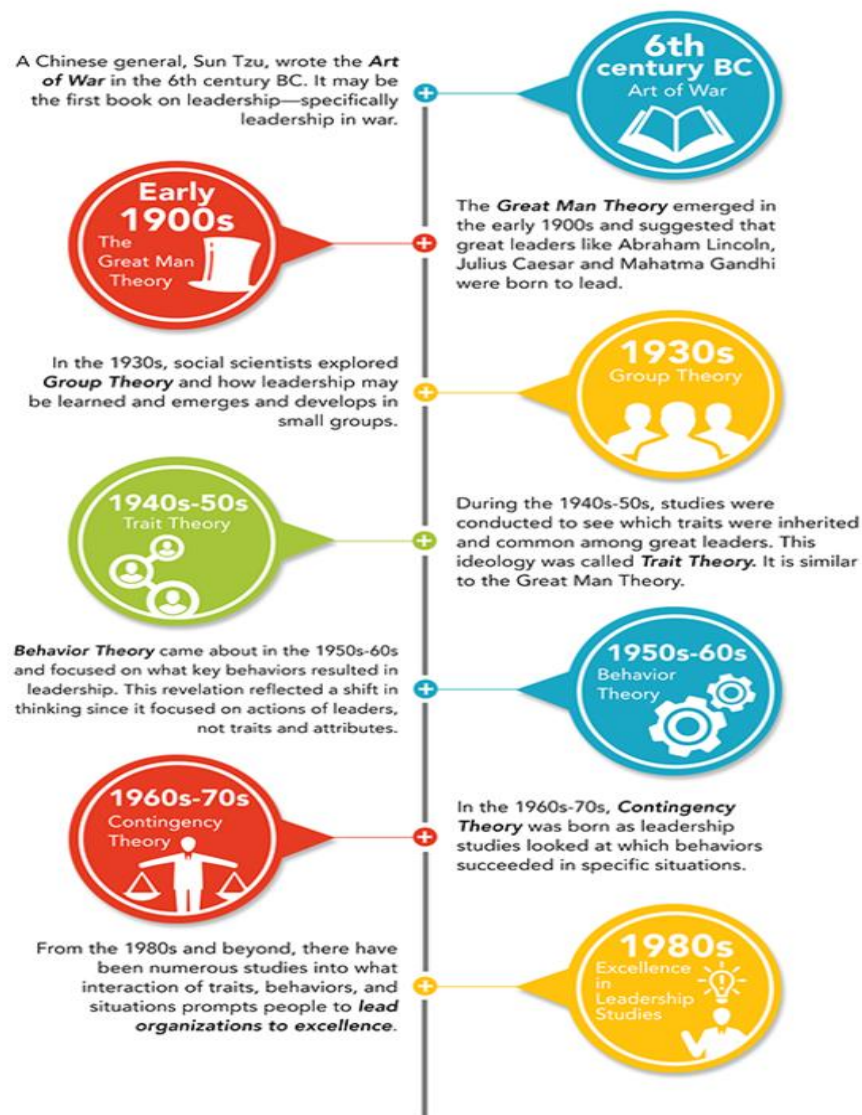
(e learners - History of Leadership, 2017)

Great Man Theory

In the 19th century, the concept of leadership became increasingly popular and early philosophers studied leaders who were either in military or political fields. The great man theory suggested that these leaders were born rather than developed or educated to be a leader. 'The history of the world is but the biography of great men', (Carlyle, 1841). Of course, the time of this study was a period when the study groups were mainly political, religious or military men from the aristocracy and upper classes; hence, the author's theory dismisses the potential of those of lower social status to rise to positions of leadership. Carlyle's formulation of the Great Man theory was criticised (Spencer, 1895) who stated that applying the historical events to the decisions of a certain few Great Men was primitive and an unscientific opinion. Herbert Spencer claimed that the men Carlyle called "great men" were just products of their social environment.

Trait Theory

The trait theory followed from the great man theory where focus shifted to studying qualities displayed by successful leaders. It was suggested that by identifying these traits it was believed that people having them could be identified as having what it takes to be a good leader. The advantage of having this information is that recruitment for positions of authority would be more successful it was thought (Stogdill, 1974). Although trait theory was of benefit in the sense it marked out what makes a good leader it was accepted by academics that the theory had reached its conclusion and focus then moved to the behavior of a leader. The major criticisms of trait theory was that it was deemed its approach was simplistic. The theory did not consider a number of factors that would influence the development of a successful leader such as situational and environmental factors. Northouse (2010) summarised the strengths and weakness of Trait theory and this is presented in detail on the next page.

<u>Trait theory strengths</u>

1. Society in general view leaders as a special kind of people who can achieve extraordinary things. Still today many people view leaders as gifted people, and the trait approach claims this.
2. Trait theory has had a vast amount of research data that support this approach
3. Its focuses specifically on the leadership process
4. It did provide a very good platform to do further leadership studies

<u>Trait theory weakness</u>

1. The list of leadership traits that has emerged seems endless
2. The approach has failed to take situations into account
3. The data used was not always based on reliable research and relied too heavily on subjective interpretation
4. The trait approach is weak in describing how leaders' traits affect the outcomes of groups and teams in organizations.
5. The theory underestimates the value of learning and leadership training and development that could be achieved

Behavioral Theory

The focus of leadership thinking moved from Trait Theory towards the behavior of leaders, and how these leaders interacted with their followers. Many behavioural and social scientists studying management in this period also studied leadership. One of the more prominent people was (McGregor, 1960) and he had a great influence on leadership researchers as they moved away from studying the individual traits of the leader and placed greater emphasis on their actions. It was commonly accepted that that the success of leaders was measured on what they did and how they did it and not as previously believed, the "Person". This then implied for the first time that great Leadership could be achieved by anyone who could gain the relevant skills. Both (White & Lippitt, 1960) and (Lewin, 1997) also completed research on this concept that supported McGregor's theory and suggested three different leadership styles that were evident when making decisions. See table 1 next page.

Autocratic	A leader who makes their own decision without consultation from their followers or indeed members of the organizations.
Democratic	This leadership style is evident when the leader seeks input from others and attempts to use their contribution to get consensus.
Laissez-faire	Laissez-faire style can be described as a leader who removes themselves from the decision making process to encourage others to step up. It is worth noting that the adoption of a laissez-faire approach in decision-making is a deliberate decision by the leader and not an excuse from a leader who may be lazy or busy.

Table 1.   Leadership Styles

The behavioral theory of leadership was very helpful in understanding the impact on people and the results of a leader's actions but it did not consider the fact that situations change and therefore called for leaders to change their style according to the challenges they face at that time.

Contingency Leadership Theory

As stated by (Yukl, 2013), in the 1950's Fiedler suggested that the effectiveness of a leader was heavily determined by the leaders' characteristics and traits but was also subject to the situation. Further research was carried out by (Hersey & Blanchard, 1977) and their study examined the characteristics of the followers in the situation. They suggested that leaders should tailor their approach to a situation depending on the follower. This model is also known as Situational Leadership. This was supported by (Mullins, 1995) as he expressed the view that leaders need to adapt their leadership style to follower development style (or 'maturity'). The four styles (S1, S2, S3 or S4) suggest that leaders should put greater or less focus on the task in question and/or the relationship between the leader and the follower, depending on the development level of the follower.
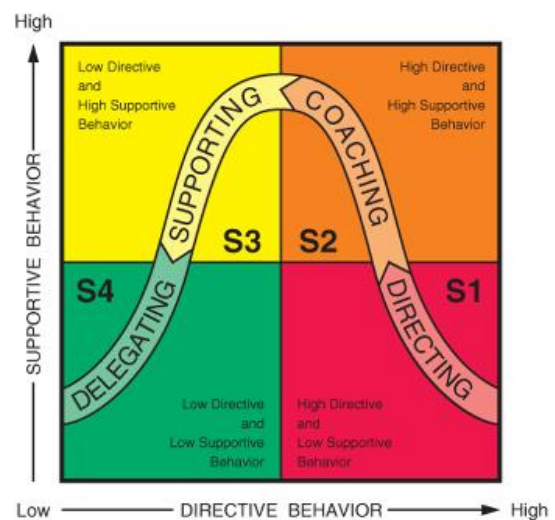
Hersey and Blanchard's Situational Leadership

Path Goal Theory

As previously discussed in relation to situational approach, the leader tailors their approach to the development needs/levels of their followers. The path-goal approach reveals that leaders tailor their approach to the motivational needs of their followers (Northouse, 2010). Path-Goal Theory of Leadership was developed by (House, 1971) and he suggested that effective leaders need to encourage and support their followers in achieving the "goals" that they have set for them. The leader needs to form the "path" that followers can take in a clear and easy understandable way. "Behaviour directed towards satisfying subordinate needs" (House, 1971). In summary, Path-Goal theory is the idea that leaders can enhance the organisations productivity by influencing their followers' motivation. In order to understand what and how employee are motivated, the leader needs to consider the following

- Is the employee's locus of control internal or external?
- Does the follower have a strong need for affiliation or a strong need for control?
- Is the activity/work vague or easy to understand?
- Does the environment have clearly defined norms or not?

Only by considering and addressing these questions will the leader gain better insight into the motivational needs of each of the employees and then the leaver and adjust their style accordingly. (PennState University, 2016)

Distributed Leadership Theory

It is claimed by (Bolden, 2011) that the concept of distributed leadership has really only been embraced by scholars and practitioners from 2000. In his article he refers to (Harris, 2009) and (Gronn, 2000) as two of the main researchers of the origin of DL Theory but the term D was not widely used as a key concepts until Spillane et al. (2004), as he "identified 'distributed cognition' and 'activity theory' as the conceptual foundations of their particular account of DL". A desk study completed by (Bennett, Wise , Woods, & Harvey, 2003) undertook to review all the literature available relating

to distributed leadership. The study also included delegated leadership, democratic leadership, and devolved leadership and dispersed leadership due to the similarity between them. It is quite difficult to find a clear definition for distributed leadership but one of the most recent definitions presented by (Kayworth & Leidner, 2002) described distributed leadership as, leadership that was not in the same physical location as the team that he or she was leading. As teams were operating from a remote location, they were highly dependent on using technology as a means of communication (e-mail, web-based etc). Other academics such as (MacBeath , 2006) suggest that DL is a practice and structure which is based on the premise of the team members acceptance of one another's leadership potential and that formal leaders need to 'let go' of their control and allow others to take it on if that is what is best for the team. This is supported by (Spillane, 2012) as he argues that many organisations need to allow teams to become self-driven. Self-managed teams are clearly becoming more common in all organisations but their success will depend on how well people in various leadership roles can communicate, unify and work toward a common goal. Cameron and Green (2015) also discuss this topic and claim that successful leadership does not necessarily come from the top down of an organisation and imply that leaders can emerge from any level of the organisation depending on situation and culture of the organisation.

Current Leadership view

Jackson & Parry (2008) suggest that anyone who has been in a leadership role will understand that the act of leadership is considerably more challenging than talking, reading, writing or seeing leadership all put together There's no doubt that one can learn the most about leadership from actually trying to lead. It is also argued by (Schaffer, 2010) that despite the vast amount of research produced to date on leader psychology, he suggests that there are four basic behavior traps that leaders are constantly failing to implement which are a key function of management

- TRAP ONE • Failing to Set Proper Expectations
- TRAP TWO • Excusing Subordinates from the Pursuit of Overall Goals
- TRAP THREE • Colluding with Staff Experts and Consultants
- TRAP FOUR • Waiting While Associates Prepare, Prepare, Prepare
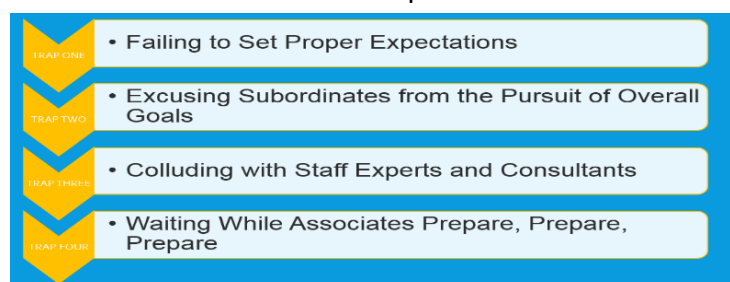
Another currently active author on the subject of leadership is (Sinek, 2011) who produced a book called "Start with Why" presented a model called 'The Golden Circle' which leaders can adopt. The author suggests if leaders are very successful in communicating "WHAT" and "HOW" the organisation is going to achieve its objectives but fail to put enough focus on explaining "WHY". The author argues that once people understand the WHY there is a much higher chance they will be engaged. A Harvard Business Review article by (Hamm, 2006) "Five messages leaders must manage" reinforces this theory.

2.3 Globalization

The term "Globalization" from a business sense began in the early 1980's and can be defined as the integration of all world markets into a single global market (Lane, 2008). The author of Globalization: The Juggernaut of the 21st Century also outlines that there are many advantages and disadvantages that come with global trade but many of these disadvantages can be addressed. Communication is one of the main barriers but continuous advances in technology has allowed organisations to create global team's specific accountability for certain business activity. Globalization brings more choice and more diversity. The example provided by (Eskew, 2003) "*Today, foreigners own half of America's film studios, half of its top 20 publishing houses. Harry Potter-a British invention-generated more revenue in the US last year than McDonald's did in the UK*".

Hewlett Packard InkJet manufacturing operation is a good example of this with Research and Development located in two different global sites- Corvallis (USA) and Leixlip (Ireland), Global Procurement in Ireland, Manufacturing in Malaysia, Finance in Singapore and Accounts Payable situated in in Bangalore (India). Each of these functions operate as Global Virtual Teams (GVT). Multiple books on the subject of Virtual Teams have been a published such as "Mastering Virtual Teams" (Duarte & Snyder, 1999) in which the author suggests strategies, tools and techniques that organisations need to implement for success. This is further developed by the authors of "Multinational work teams" (Earley & Gibson, 2002).

2.4 Technology

Technology continues to have a major impact on society, companies, organizations, and our daily life. The effects of Information and Communication Technologies (ICTs) in particular are contributing greatly to globalization, innovation, growth and productivity. It is suggested by (Bohlin, Levin, Sung, & Chang-Ho Yoon , 2004) that ICTs have made it easier for multinationals and other companies to spread production facilities all over the world, to co-ordinate international marketing campaigns, and to ease collaboration in projects taking place on different continents. Abe and Chowdhury (2012) explains that there is no digital divide and by this they mean that all individuals no matter what job type, employed or not- now have access to the same information and knowledge previously available to only a selected few. While technology will help you stay connected, the truly successful virtual business knows how and when to interact remotely with employees and clients. It is not something everyone can do successfully and requires a particular skill set which requires employees to be able to work with minimum supervision, be honest and who can deliver work on time to the required standard. Those employees who need constant motivation and a proper office environment may not be suitable for GVT and technology has not yet bridged this gap.

2.5 Global Virtual Teams (GVT)

Global virtual teams are "geographically and/or organizationally dispersed" and using "a combination of telecommunications and information technologies to achieve an organizational task" (Townsend, DeMarie, & Hendrickson, 1998) geographically separated and rarely meet face to face. As discussed in the previous section, major technological advancements in communication and data analytics, have facilitated organisations in utilizing virtual work teams and in many cases, the "virtual team" have become the default option as organizations expand into new global territories (Avolio & Kahai, 2003), (Martins, Gilson, & Maynard, 2004). There are a number of advantages to GVT's and cost savings is the main one as many global organizations can reduce real estate and utilities costs. It also allows organizations off shore to outsource their operations to lower cost regions and to take advantage of more competitive production costs, operational costs and lower wages for employees in

these geographic locations. A second advantage of GVT allows an organization to avail of experts and specialists talent that is limited or not present within their own country. As technology has advanced it is creating greater opportunities for people who require a more flexible working arrangement and more jobs do not require a physical presence in the work place. There are some disadvantages also, considering the cost of technology can be reduced it is still a sizable cost to organisations to provide GVT's with the technology required for them to function. Other challenges can be related to a lack of trust between virtual team members, caused by the absence or limited face to face time between a team which is precipitated by the absence of non-verbal cues. Organisations such as Hewlett Packard, IBM and Microsoft are actively trying to overcome disadvantages by exploring new leadership approaches and developing technology to give more effective communication strategies.

On review of literature, it became apparent that there were additional areas of exploration to be reviewed, as there is an ever-growing dependency on the use of Global Virtual Teams (GVTs) in achieving organizational goals.

The Society for Human Resource Management, published a report in 2012 and their findings were that 50% of the >300 organizations surveyed responded stating that they did have Virtual teams within their organisations this percentage increased to 66% for multinational companies (Minton-Eversole, 2012).

In summary, it is not uncommon for organisations to have as many as 50 percent of employees now working on or involved in virtual teams. Advances in technology have made it easier to organize and manage dispersed employee groups. Hewlett Packard like many other organisations are under major cost pressures as they continue to expand into global markets and utilization of virtual teams is helping meet this cost in the short term but unfortunately deciding to implement a virtual strategy does not guarantee success as many companies are now reporting to have virtual teams that are ineffective.

2.6   Virtual Workplace

Virtual workplace can be defined as an organisation whose work is completed in full or in part via electronic communication and requires:

- Minimal or no daily face-to-face contact with co-workers or leaders
- Technology such as Skype, Tele / Video conferencing, computers etc.
- An environment without geographical boundaries

The Virtual workplace is very different to that of the traditional work environment as these workspaces frequently operate in multiple locations. Business is carried out through email, internet and video. Employees within the company communicate with each other through technology, staff are communicating with their clients or customers remotely as often each party are based in different time zones. Yukl (2013), supports this stating that there are a number of factors such as increased pace of globalization and the need to have joint ventures coupled with the fact that many employees require better work life balance. Virtual workplaces can also be classified as employee's working from the home or any "public hot-spots" such as cafés and hotels (Cole, Oliver, & Blaviesciunaite, 2014).

2.7   Literature Review Summary

The objective of this dissertation was to complete an investigation into remote leadership and to gain a better understanding of how effectively technology has been adapted and utilized by employees who work in virtual teams. The author completed a comprehensive review of existing literature relating to leadership to gain an understanding of the factors that contributed to the evolution of leadership over the past 100 years. This encompassed early theoretical writing from Chinese general Sun Tzu in the Art of Way through to the great man theory, trait, behavioral, contingency, path goal theories arriving at current theories covering distributed leadership and dispersed leadership. Further discussion in this chapter referred to the challenges to current leaders in business brought about by globalization. The theory also discussed Global Virtual Teams and the virtual workspace and how technology is being applied in linking it all together.

Considering the evidence gathered from completing this literary review the author suggests that there are gaps in what has been researched to date. Many organisations and in particular multinational organisations like Hewlett Packard continue to expand and explore ways of gaining a cost competitive advantage. A by-product of this exploration is, businesses operating in greater defragmented teams creating major challenges for leadership as they must lead teams that are multicultural, multi time zones using latest technology. This dissertation will explore these challenges from the opinions of a number of Hewlett Packard leaders.

Chapter 3.   Research Objectives

3.1   *Introduction*

The central premise of this dissertation is to investigate primarily how remote leadership functions in comparison to traditional leadership and how technology affects or benefits leaders and employees working remotely in GVTs. There are many challenges for leaders in organisations leading teams who do not have the same level of face to face interaction (If any) as traditional leaders, usually due to a team composition of members dispersed in global locations. This paper will examine the challenges faced by leaders and employees as highlighted in one to one interviews used to compile qualitative data matched with extensive leadership theory research.

3.2   *Research Question*

An Investigation into Remote Leadership and Effectiveness of Technology in Leading Employees in Virtual Teams.

In order to complete the investigation the author has pinpointed the following as key information requirements and his research paper is built around these questions:

1) Traditional leadership versus remote leadership, what is traditional leadership, what typically represents traditional leadership – traits and behaviours, challenges & rewards?
   How do these traits change in respect of remote leadership, what are the challenges, rewards and differences by comparison?

2) How does remote leadership affect leaders and employees, are there perceived benefits or challenges?

3) How does technology impact leaders and GVT's – is it assisting in reducing the issues faced by GVT's or exacerbating the problems?
   How is this perceived by leaders and employees?

Chapter 4.   Research Methodology

4.1   Introduction

It is the researcher's intention that this dissertation enhance his understanding of Remote Leadership and effectiveness of Technology in leading employees in Virtual Teams. While undertaking the secondary research for this dissertation proposal it became apparent that there was extensive amount of research previously carried out on leadership. A lesser amount documented Remote Leadership and in all the research reviewed many authors highlight further research was recommended on the subject of Remote leaders in global virtual teams as it is still a relatively new development and many organisations are trying to fully understand it. The intention is to carry out further primary research on this topic, which will broaden the subject matter.

Objectives "An Investigation into Remote Leadership and effectiveness of technology in leading employees in Virtual Teams"

- Research Objective 1   To understand the characteristics of Remote Leaders
- Research Objective 2   To understand the characteristics of Virtual Teams
- Research Objective 3   To understand how Technology is assisting Leaders leading employees in Virtual Teams

4.2   Chosen Methodology

Before deciding what would be the most effective method to carry out this research the researcher examined whether quantitative research and qualitative research or a combination of both should be utilized. Quantitative research is heavily dependent on data and numerical analysis and results presented are in the form of relationships between variables. Qualitative research on the other hand is interpretations taken from verbal or a description of real-life situation (Bryman & Bell, 2015) (Silverman, 2016). Quantitative research is described by (Justesen & Mik-Meyer , 2012) and

(Saunders & Thornhill, 2012) is a method that utilizes numbers and generates data that allow numerical analysis and tends to be experimental in nature.
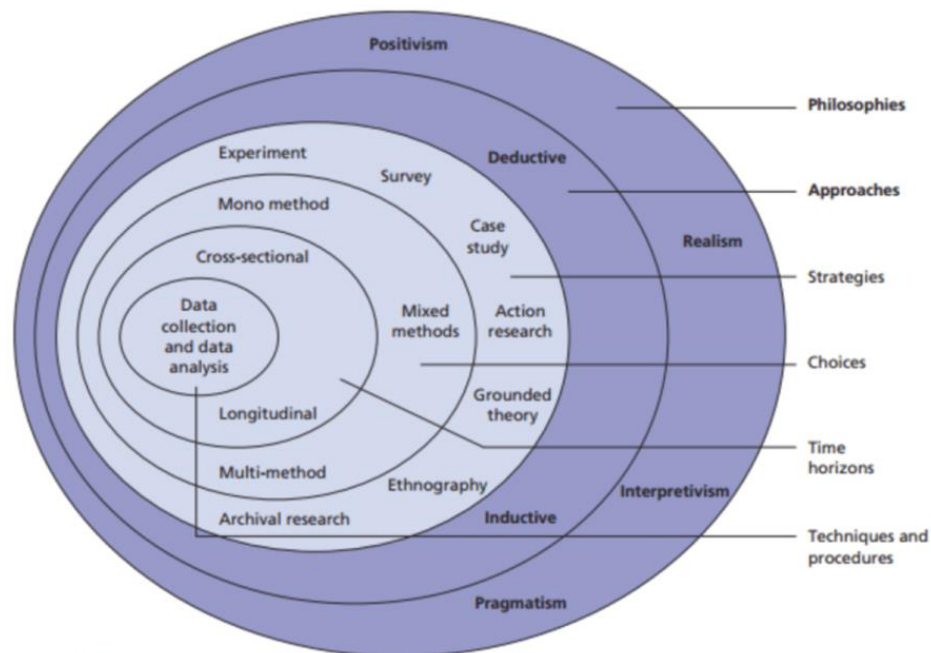
The Research Onion - (Saunders & Thornhill, 2012) Pg. 102

For the purpose of this study the researcher proposes to use qualitative research as he is of the opinion it will provide a greater understanding of participants' views on the topic being investigated and will allow greater flexibility in the manner in which the research is conducted. It is the researcher's intention to interview participants in 4 different time zones using technology that is already in place with the organisation (Hewlett Packard). It is considered that this method of interviewing is more suitable in this research topic than the constricting method of surveys utilized in quantitative research. The researcher accepts that, requesting participants located in different geographic locations and different cultures to complete a quantitative survey may not produce the best data for interpretation. By utilizing Interviews, the researcher can ensure that questions are interpreted in the correct manner. Qualitative structured interviews will allows the interviewer to ask relevant questions and probe a deeper opinion from participants. It is intended that the data collected in interviews should be more descriptive than that collected in box ticking surveys, which should facilitate the researcher with better information analysis post interview. The researcher has also reviewed a number of previous studies on the similar literature that finds qualitative research is used in the

majority of cases. Creswell & Poth (2017) suggest that there are five approaches to qualitative research.

Method	Focus	Sample Size	Data Collection
Ethnography	Context or culture		Observation & interviews
Narrative	Individual experience & sequence	1 to 2	Stories from individuals & documents
Phenomenological	People who have experienced a phenomenon	5 to 25	Interviews
Grounded Theory	Develop a theory from grounded in field data	20 to 60	Interviews, then open and axial coding
Case Study	Organization, entity, individual, or event		Interviews, documents, reports, observations

Table 2. Approaches to qualitative research (Creswell & Poth, 2017)

A further approach that can be considered for research is Case Study Approach and this approach is normally the preferred strategy when the researcher is posing 'how' or 'why' questions. Case Study Research also tends to be an in depth study of a particular area such as Virtual leadership. This method is used to narrow down a very broad field of research into a single researchable topic and is useful for testing whether scientific theories and models actually function in application (real world). One of the first examples of Case study research was completed by (Allison, 1971) where he researched the decision making process used during the Cuban missile crisis. Kathleen Eisenhardt (1989) of Stanford University argues the case for

1) Generation a roadmap for building theories from case study research
2) Positioning theory building from case studies into the larger context of social science research.

She suggests overlapping data collection with analysis and changing the data collection as necessary called flexible data collection.

Yin (2014) another highly recognized author has successfully completed hundreds of projects, journals articles and books. Yin argues that case studies should be significant if

they address important issues and be of general interest. The author also suggest that case studies need to consider alternative perspectives to avoid bias and presenting only one side of a story. Yin also offers guidance in the form of a process flow to researchers who intend to use the Case study Research method:
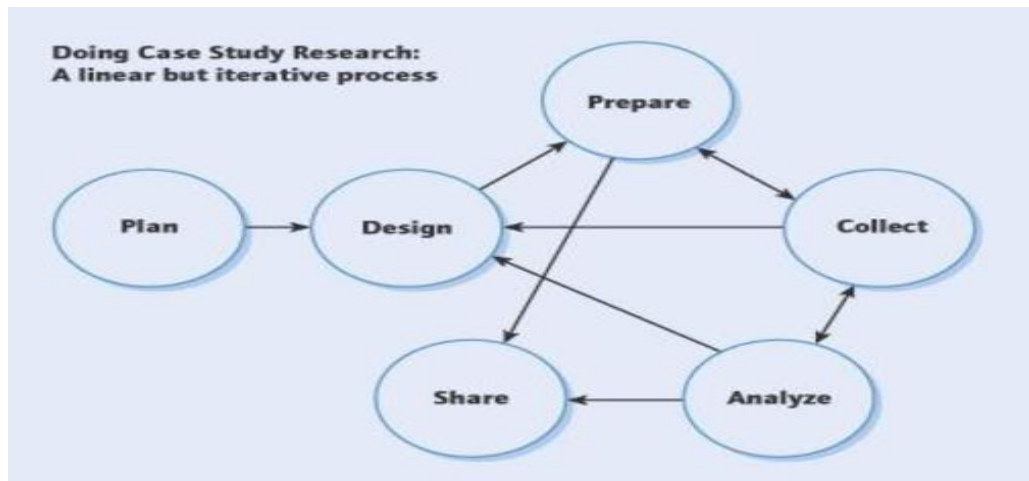
(Yin, 2014)

PLAN

Once the researcher has identified a research question then consideration should be given to which methods are most suited. When considering the situation what are the likely questions or terms to be used, who, what, where, how and why. If your research question is "how" and/or "why" then Yin suggests that Case Study method is most likely to be useful.

DESIGN

The key consideration in design is how this research is going to be measured. This means detailing what is going to the "Unit of Analysis". The researcher also need to complete a design test for validity (Construct, Internal, External and Reliability)

PREPARE

It is important that the researcher develop some protocol for the study as to how it will be managed and conducted. The researcher should also identify what skills they need to conduct this study and if some gaps are highlighted a researcher should seek training and use example interviewing styles and techniques. How is the researcher going to

identify source for data (Interview pool), how and where will this data be collected (Interview or Survey of combination of both). If human subjects are going to be required, what process and procedures need to be followed to facilitate this. Ensure approval is received before commencement.

COLLECT

Identify where and how information will be collected from and understand the strengths and weakness of the six sources of evidence that are

1. Documents
2. Archival records
3. Interviews
4. Direct observations
5. Participant-observation
6. Physical artifacts.

Ensure data collected is securely stored as it is very important to maintain a chain of evidence as this will increase the reliability of the information in the case study. It also provides the opportunity for external observers to understand factors considered in the research and allow them to question or build upon the research undertaken.

ANALIZE

This section is advises researchers on how best to analyze the data or evidence gathered. It requires a clear strategy to be adopted based on theoretical propositions, using a ground up approach focused on data gathered or a descriptive framework upon checking similar explanations.

SHARE

This section is focused on making a conclusion on the results of the research. The researcher needs to decide how this data will be presented considering both textual and visual material. This will have a bearing on who the potential audience is likely to be. As suggests by (Yin, 2014) that there are a number of reporting formants that need to be considered including, whether the report is for a Single case study or Multiple case studies which may require cross case analysis.

4.3   Construction of the Questionnaire for Interview

When deciding on the structure of the questionnaire that will be used in the interview process the researcher referred to both (Yin, 2014) and (Brinkmann & Kvale, 2015) as they explain that interviews can be done in a variety of forms. The researcher had to decide what was the best format for this study. Options were formal interviews through the Internet, over the telephone, or face-to-face interaction or a blend of each which was the preference. Brinkmann (2014) explains that in research interviewing there are two options. Standardized questions are used to get data that is open to quantitative procedures and for qualitative interviews, the interviewer should use semi-structured interviews. The semi-structured interview, tends to be more fluid in nature providing the opportunity for the respondent's to provide a more spontaneous response and expand on their opinions.

This Researcher constructed his questionnaire to contain two sections. The first section has three closed-ended questions and the intention of this is to get some comparability data such as location and gender to ensure diversity across the participant pool but also nationality, age and team structure. The other two sections contains seven open-ended questions and the objective is to focus and collect the experiences and opinions of the participants on Virtual Leadership and Technology. Refer to Appendix 1 for a copy of the questionnaire.

4.4   Procedure and Participants

4.4.1   Background

The researcher has been employed by Hewlett Packard Ltd for 20 years and has worked in many different departments, Manufacturing, Research and Development and currently as Strategic Procurement Manager in Global Supply whose core business is supply and continuous development of InkJet technology products for a global market. The company has a significant global presence with at least one operation in 72 countries on six continents where the company currently employs approximately 55,000 people.

As the researcher occupies a global supply chain role spanning a number of these regions, he had access to a ready pool of resources that would be willing to participate in the study. The researcher was granted approval at director level to approach suitable participants facilitating interviews on campus using company facilities such as Halo Room (Video conferencing). All participants were recruited from within this organization but were cross functional and multicultural.

Participant Pool (Sample Size)

The interviews were conducted face to face in Ireland and also Virtual Face to Face using HP Halo technology (Identical conference room in different global locations virtually connected, which allows participants feel they are in the same meeting room). The intention was to interview ten participants (five from leadership roles and five from remote employees who work in virtual teams). These participants work within the Supply Chain but in different departments and also in different geographical locations. The table below indicates the size of the pool the researcher was able to select candidates from for this research.

Supply Chain Function	Ireland Team	Corvallis Team	Singapore Team	Malaysia Team	Total Virtual Team
Logistics	3	4	10	4	21
Procurement	5	5	14	10	34
Planning	7	1	18	4	30

Table 3. Research Participation Pool

4.4.2   Ethical Considerations

The researcher is well aware that before engaging in any kind of research that careful consideration needs to be given to ethics. Both (Creswell, 2006) and (Berg, 2009.) state

that ethical considerations are an essential element of appropriate research design and the following three factors are paramount

- The informed consent of participants.

- The confidentiality of participants.

- The autonomy of participants.

The researcher as also aware of the need for maintain confidentiality when writing the report and to ensure anonymity would not become an issue when research is limited to a small pool such as interviewing several people from the same company causing a greater need for confidentiality.

Readers of the completed research should not be able to identify any individual. For this reason there will be no specific details in the final report that contain names or addresses so to protect identities. Also all the data that was collected (recordings and transcripts) was stored in a secure locked location and will be destroyed once report completed (Lüders, 2004). The researcher is very confident that there was no ethical concern about how this report was completed

4.4.3 Bias

It is correct to state that the researcher for this dissertation has previously worked in the research arena and his personal experience concurs with the majority of the findings of the participation pool used to collect data. However, the author was conscious of the possibility of bias skewing his perception of the results and thus deliberately searched for variability -using a systematic sampling plan (Maxwell, 2012). This action was taken to ensure integrity of the findings. In addition, all of the information collected during the interview process was recorded to eliminate measurement bias.

4.4.4 Interviews

HP approved the researcher to block book one of the conference rooms in Leixlip Campus, Kildare and all interviews were conducted from there. As per table below seven of the interviews were conducted face to face as researcher took advantage of the fact that a number of the interview pool were traveling to Ireland. The remaining pool were

interviewed on line using Skype for Business software, which all HP employees have installed on their HP IT equipment. Skype provides functionality that allows for voice and visual communication and real-time document sharing via shared desktop and recording function. In all cases the interview questionnaire was displayed using the shared on interviewers desktop. The interviews were scheduled for forty-five minutes and all were asked the same questions as outlined. As these were semi structured interviews (Lewis & Ritchie, 2003) the researcher did ask additional follow-up probing questions to some individuals and encouraged the interviewee to talk freely. Although unscripted, the interviews were similar in nature (Brinkmann & Kvale, Learning the Craft of Qualitative Research Interviewing 3rd Edition, 2015). In the interest of time all of the interviews were recorded and transcripts of the interviews were later typed into individual word documents. (Lewis & Ritchie, 2003). The table below indicates which interviewees were selected form each region and weather the interview was conducted face to face or had to use technology to gather the data.

Participant	Location	Nationality	Interview Type	Comment
1	Ireland	Irish	Face to Face	Employee Based in Ireland
2	Ireland	Irish	Face to Face	Employee Based in Ireland
3	Ireland	Singaporean	Face to Face	Employee Based in Ireland
4	Singapore	Singaporean	Face to Face	Employee Business Trip to Ireland
5	Singapore	Singaporean	Face to Face	Employee Business Trip to Ireland
6	Singapore	Singaporean	On Line	
7	Malaysia	Malaysian	On Line	
8	Malaysia	Malaysian	Face to Face	Employee Business Trip to Ireland
9	Malaysia	Chinese	Face to Face	Employee Business Trip to Ireland
10	Corvallis	American	On Line	
11	Corvallis	American	On Line	
12	Corvallis	Irish	On Line	

Table 4. Interview Type

4.4.5   Reliability and Validity

As suggested by (Kirk & Miller, 1986) the reliability and validity of any research is calculated by how comparable the results would emerge, if someone else carried out a similar research. They also state that maintaining validity is a major challenge as most research studies will have variations in results. The data provided in this research was collected from carrying out a number of informal interviews so there was an expectation that there would be some degree of variance from the responses received from the participants. The reliability of the data possibly could be influenced by a number of factors such as

- The interviewer desire to gain precise information
- The relationship between interviewer and interviewee
- A number of the interviewees were put on protective notice by the company and their future within the organisation is unclear

All of the above factors could have an impact on the reliability of the data collected.

Chapter 5. Results

5.1 Introduction

As previously discussed in Chapter 4 Methodology, the researcher's survey participants were interviewed using a questionnaire – refer to Appendix 1. The questionnaire contained 10 questions split across three sections. Section 1 contains four questions focused on the global team structure and contains four closed-ended questions with the intention to gather specific basic data on participant's such as location, gender, Age, nationality, length in service and possible leader or follower tendencies. The second part of the questionnaire used in the interviews was focused on Leadership and challenges to the Virtual team and in section three the focus was on Technology and how it is used by the Virtual teams and how effective it is compared to local teams.

5.2.1 Question 1

Confirm your location and the location of your team members?

This data is important because we need to understand the breath of the scope of the research. It also provides an indication of the distance between leader and GVT as this may be a factor in effeteness of team due to time zones, culture etc. Results contained in Table 5. Demographic breakdown of participation pool

5.2.2 Question 2

Confirm what your role is within the team? (leader or follower)

This question distinguishes whether the interviewer is a leader or follower as this will provide an insight into the fact that a GVT leader may have a different perception on the success of a GVT than that of a follower. Example: a team may be performing in the short term but if the attitude among the follower participation is quite different than that of the leaders it may have a negative effect of the success for future objectives of same GVTs. Results contained in Table 5. Demographic breakdown of participation pool

5.2.3 Question 3

Confirm the team size, both local and global function of this team? (project or operational)

This question was included in the interview process as the researcher wanted to see if there was any correlation between size of GVT and attitudes. Many organisations have a defined span of control so it was important to understand if this was a concern for both leaders and followers.

The table below captures the qualitative data from the first three questions in the interview process

Participant	Location	Nationality	Gender	Approximate Age	Leader / Follower	Local Team Size	Virtual Team Size
1	Ireland	Irish	M	40	Leader	3	21
2	Ireland	Irish	F	40	Follower	5	34
3	Ireland	Singaporean	F	30	Leader	5	34
4	Singapore	Singaporean	M	30	Follower	14	34
5	Singapore	Singaporean	F	30	Leader	18	30
6	Singapore	Singaporean	F	35	Follower	10	21
7	Malaysia	Malaysian	M	35	Follower	4	30
8	Malaysia	Malaysian	M	30	Follower	10	34
9	Malaysia	Chinese	F	25	Leader	10	34
10	Corvallis	American	M	55	Leader	5	34
11	Corvallis	American	F	50	Follower	4	21
12	Corvallis	Irish	M	40	Follower	1	30

Table 5. Demographic breakdown of participation pool

5.2.4   Question 4

Did the organisation give you the opportunity to meet the teams face-to-face prior to starting work virtually?
- ***If so, do you think this might have had an impact on how the team performed?***
- ***If you have not met team members in advance do you think this was an advantage or disadvantage, Please Explain?***
- ***In your experience, do you think that team's members behave differently in face-to-face teams versus in the virtual setting?***

The information gathered from the interviews indicated that there was a difference in the behaviour of team members and the differentiation factors seemed to be aligned to whether or not the Virtual Team was project related or operational.

Virtual Project Teams -

The data suggests that Virtual Teams who did not have an initial face to face meeting were less engaged and responses suggest that performance (productivity) of the team was impacted. The general consensus was that where a team had an initial face to face meeting it had a positive impact on how the team functioned as it established a working relationship and this was maintained once team members returned to their remote locations.

There were a number of these examples where the sponsor of large projects received the approval to pull all members of the new Virtual team together in one location (physical location did not impact the result) for a briefing, introduction and kick-off meeting to clarify roles and responsibilities, project timelines, and key deliverables. It was also implied that "A project was perceived as not as important to the business if it did not begin with a face to face from the outset"

Virtual Operational Teams

All respondents suggested that they would have preferred to meet teams face to face but understood that this was not always possible. They agreed it was very difficult to build a relationship in a GVT if its purpose was project based and particularly during short-term projects. For short-term projects, team members tended to focus on their individual tasks (action items) or commitments to the team and were less focused on establishing any

relationships. There was some evidence of a cultural impact on findings based on the responses as both American and European employees expressed the greater need to be engaged in face to face teams, European teams having slightly greater flexibility in this area. This theory was tested to see if the need to meet face to face was simply employees creating an opportunity to travel but the conclusion was that employees would be equally happy if team members visited their location for these face to face meetings.

5.2.5   Question 5
Explain what are the biggest challenges experienced by the team having a virtual leader?

One of the other concerns expressed was if remote leaders were less capable of implementing performance management fairly. (Farndale & Kelliher, 2013), suggest that an employee experience of performance management process within a company has a significant impact on the level of their commitment to the company. In their research which included an analysis of 4,422 employees across 22 organisations. It revealed that there was a direct correlation between high levels of trust in leadership of the organisations and productivity. This topic was also discussed by (Martin & Bartol, 1998) as they argue the importance of employee feedback in maintaining performance. Their research proved that leaders who provided their followers with frequent and accurate feedback lead to a more positive impact for both the organisation and individuals. Language barriers was also raised a concern, as some of the team members despite their expertise levels did not have a good working knowledge of business english.

5.2.6   Question 6
In your experience, was the leader successful in supporting and leading the virtual teams?

The general feedback was that the success of the leader was varied and it was felt the most successful team leaders had very good interpersonal skills and put a lot of effort into communication. Two of the interviewees discussed how they had worked on a number of Virtual Technical Teams and they suggested that Non-Technical Leaders were more suitable as they focused on how the team functioned and project timelines and less on

the Technical part of the project. Timely feedback was very important to ensure everyone was engaged in the project at all times.

They stressed that the more successful Virtual Teams that they had been involved in were when the leader had the opportunity to have Face to Face team-building at the start of projects.

Many of the people interviewed stated that lack of clear goals for individuals was an issue as they understood what the teams objectives were but many felt they worked in silos, The suggested the missed direction from face to face leadership. It was suggested that this did inhibit team performance. Communicating with the leader was also challenging as team members that were geographically dispersed felt that they only had a small window in which to communicate and therefore they had to rely on email as the default which was not as efficient due to delays in response.

5.2.7   Question 7
Describe examples of when the team faced its biggest challenges and if having a virtual leader contributed positively or negatively towards this?

In general the group accepted that having a Virtual Leader works most of the time as it is acceptable that this is the way business is evolving. A number of interviewees stressed that there were two areas/situations in particular that were challenging. These are in relation to conflict resolution and performance management. The group interviewed all provided examples of when conflict occurred however it was heightened as they felt they were operating without the ability to see visual cues (nonverbal cues) which is a common problem for remote leaders and team members alike. Regardless of misinterpretation or disagreement, it is more difficult to resolve these situations when people do not have the opportunity to discuss issues face-to-face. Feedback also suggest that leaders do find building relationships was also more difficult in a virtual meetings setting and they suggested if they were experiencing this issue they perceived that team members must also have the same problem. It was suggested that because team members may not build the same relationship with the leader it makes it more challenging to establish rapport and trust within the virtual teams. This led to more incidents of conflict than in conventional teams.

5.2.8   Question 8

What Technology is used by your virtual team and please indicate level of interaction?

Telephone (Voice)

None of the people interviewed had desk phones but all had company mobile phones and skype on their lap tops. The data gathered indicated that only two people (11%) used their telephone for voice communication every day in the work setting. Despite 100% of the people interviewed having a company mobile phone they stated they used it for email/data only. One of the explanations provided for this was due to the difficulty in understanding other team members even when speaking English. Many suggested that they preferred written communications so they could fully understand the request made by fellow team members.

Skype (Voice & Data)

100% of the people interviewed used Skype. 70% use it constantly and the remaining 30% used it daily. The main benefits were that it was easy to set up and share desktops, which was ideal when working with remote groups. Skype facilitates both video and voice calls but more importantly it the sharing of live data. Skype also offers instant messaging is often a better solution instant messaging platform offers a group chat option, giving you the ability to hold impromptu remote meetings or reunions.

Email (Data)

Not surprisingly, email was used by 100% of the panel interviewed always. It was arguably the most effective way of ccommuning with everyone whether collocated or remote teams. A number of people interviewed stated they preferred the flexibility of email communication, as they were able to respond when it was most convenient for all considering time zones. An example given suggested a request for information can be made in Europe to Asia and a response was available the same day.

Halo (Visual Tele Conference)

All persons interviewed had at least one experience using Halo technology and found this to be very useful. Unfortunately getting access was a problem due to demand and many

remote teams do not have this technology available to them. When interviewees were asked why they did not use webcams an alternative to Halo the response was that it was not the same experience and not all were comfortable been on camera.
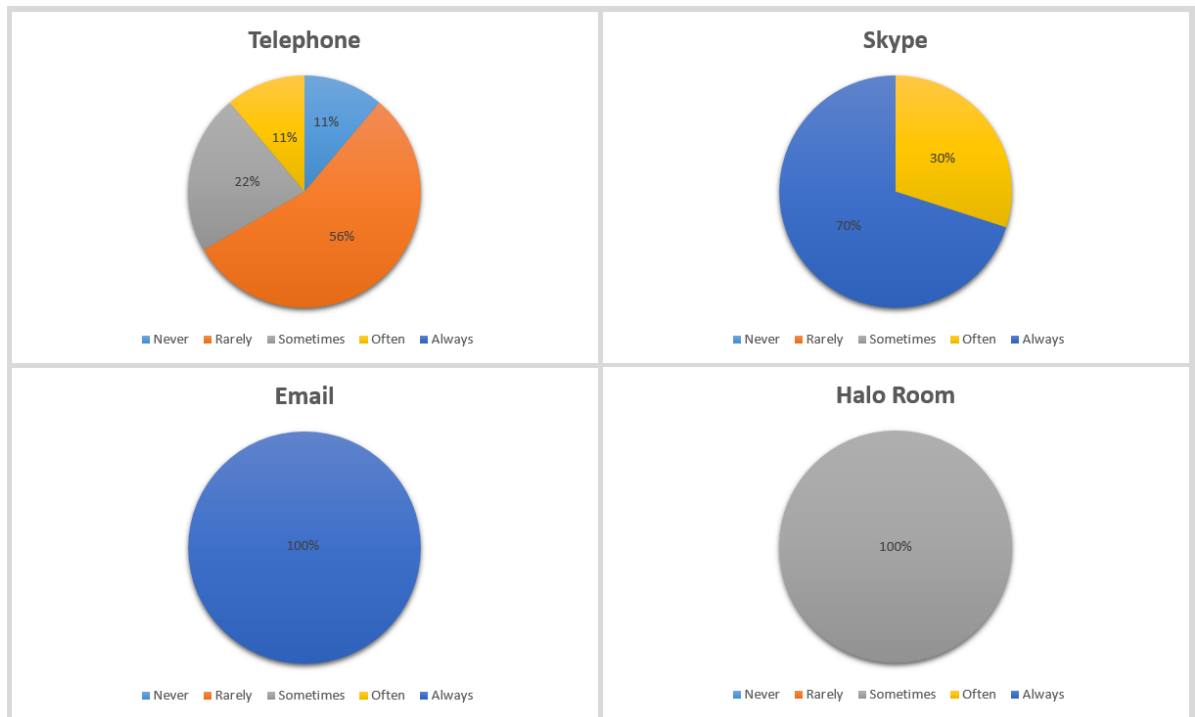

Table 6. Technology Utilization

5.2.9   Question 9
How has technology influenced your ability to work in a virtual team?

In general Technology is viewed a very positive tool by all and the majority of respondents agreed it is almost impossible to do the type of work they are doing now without it. Most spoke about email and Skype as being the more important tools of their trade and not their mobile phones.

Having Skype allowed them to instantly find out who is online and available 24hrs a day. It also allows them to arrange meetings quickly as they have access to everyone's timetables. There was some feedback suggesting that this can also be a problem as it creates pressure to be always available or in some cases it very difficult to get certain work done as people are expected to be available all the time. On further probing It was

suggested that the company need to generate a formal code of conduct detailing how employees are expected to manage their skype accounts to create a balance between "Always on" v "Getting activity completed"

One of the other concerns highlighted was that the organizations facilitation of members in a virtual team in choosing their own work hours, added to the fragmentation of the team. While it was accepted that in general people who were working as part of a Global team did have more flexibility of work times there was the risk that their actual work day was spread out over a greater time period example. Local team workers tended to work between 7am and 7pm where as GVT workers often worked between 6am and 2am.

5.2.10 Question 10
What are the biggest issues with using Technology as a substitute for face to face meetings/relationships?

Most feedback on this question was the same. People in general feel there is no substitute for face to face and the lack of face to face contact is a barrier to building working relationships, team bonding and in general organisation engagement. It was also suggested that the size of the GVT team was a factor on how successful or beneficial the impact of technology was. In general meetings that had less than ten functioned better as all attendees felt more engaged and participated to a higher level during these GVT meetings.

It was suggested that in large GVT meetings people were disengaged. An example given was a monthly Global Senior management meeting where all team members had to call in (their names appear as present) but many are actually working on other activities during this meeting such as email. One of the interviewees stated that they were an isolated member of a Virtual Team and for this reason they spent so much time out of the company office environment (Working from home) that she really missed the social interaction of the office. She also suggested that because she was part of a GVT she had very limited opportunity to meet with colleagues for impromptu conversations to discuss a concern or seek advice. On a more positive note many of the interviewees did comment that in the past they had the opportunity to use the HP Halo studios. These are telepresence meeting rooms which used the latest video conference technology.

The conference rooms were designed be an exact replicate to where the other participants of a meeting were remotely located. The typical set up was where six chairs placed on one side of a semicircular table that faced three plasma displays installed on the wall with cameras mounted above each display. A fourth plasma display above the other three was used to display presentation. This set up solved many problems as participants were able to see and read the visual and non-verbal signs from all involved. Virtual reality technology has also progressed and although initially the focus has been on video gaming and social networks there is now a focus on bringing VR to the workplace. In addition to this is, there is on going development of augmented reality (AR) technologies and this scenario isn't that far away either so it highly probable that GVT's will be using this technology in their business meetings in the near future.

5.3 Results Summary

There are clearly three main concerns for people who work as part of a GVT and they are related to trust, collaboration and social isolation:

1. Trust Factor: The leader has to trust the virtual teams will do the job they are supposed to do and conversely the GVT must trust that their leader is available and capable of providing them with the support they require. GVT must trust that their performance contributions will be recognized rewarded fairly. This is a very valid concern and a challenge for organisations who use GVT. Many studies have shown that trust or lack there -of is a major factor in determining the success in a GVT.

2. Collaboration: This is a concern as there is a risk that GVT members can operate in silos rather than as a team so success that can be generated through collaboration can be diminished. It is accepted that the absence of face-to-face interaction in virtual environments creates many challenges and if visual communications cannot be achieved then GVT members are likely to miss subtle cues such as facial expressions and body language which aid collaboration and successful team work.

3. Social Isolation: This is a real challenge for virtual teams members as they can feel lonely and isolated without the regular social interaction with their peers which is received daily in local teams. This has been referred to this as the loss of the "Water Cooler" effect, traditionally employees would have had the opportunity to catch up and talk about topics unrelated to work. In Hewlett Packard GVT are frequently working across three time zones between Oregon Pacific Time Zone, Dublin Greenwich Mean Time and Singapore SGT. Singapore is >12hours ahead of Oregon so this exacerbates the problem of social isolation due to minimal overlap during working hours. Employees do not want to spend extra time being sociable with their team during perceived unsocial hours, they just want to 'get the work done.'

Chapter 6. Discussion

Over the past century, theorists, researchers and academics have produced vast amounts of valuable research on the practice of Leadership and the learnings have moved from Great Man Theory, which assumed that leaders were born, through Group, Trait, Behavior and Contingency theories attributing great leadership to learned, inherited, behavioral and situational impacts on potential leaders. Academics have completed valuable analysis on the subject of Leadership but as suggested by (Badrinarayanan & Arnett, 2008) technology has now aided and created Virtual Team Leadership that has created a new work dynamic.

As Globalization occurred so too did the requirement for organisations to create Global Virtual Teams and remote or virtual Leadership. The importance of leadership in management remains critical to ensuring the successful execution of the organisations objectives. The work environment has evolved dramatically over the past 10 years. It is not unusual for a workforce to be decentralised for a number of reasons

- Globalization of certain business functions. Example: Supply chain department located in Europe but manufacturing in Asia.

- Many companies strive to promote and improve a better work life balance and work from home policies are now common in many organisations.

- Technology now can facilitate employees to work remotely outside the traditional office workspace.

- It is becoming more common to see open plan offices and in many cases employees are no longer assigned their own desk or company operates a hot desk policy, (first come first served)

This presents new challenges as management must lead the organisation while meeting organisational goals, how can this be achieved in a new landscape? It is suggested in *Reengineering management* (Champy, 2006) that one of the biggest challenges to Leaders of the future is the ability to reorganize their teams. Especially in situations where the leaders are working remotely from their employees. There are also challenges for employees outside the traditional office. (Conlin, 2009), suggests that in the absence of the social interactions of the traditional office environment it is proving more challenging to maintain basic relationships when employees are no longer

physically sharing the workplace. Muldoon (2014) carried out research on people working from home and she expressed employees who worked from home felt that their performance was not captured accurately. Ivancevich, Matteson, & Konopaske (2014), present research which address these challenges for measuring the performance of remote employees.

The central hypothesis of this paper is that the management of GVTs brings greater challenges than that of the management of employees located on the same premises, and that technology significantly influences this. Following his interviews, the author determined the general opinion of both leaders and employees was that GVT's had both advantages and disadvantages in the workplace. The flexibility provided by the opportunity to WFH was invaluable as this added greatly to work life balance. A study compiled by (http://globalworkplaceanalytics.com/pros-cons) documents that 79% of people actually want to work from home, and 36% would choose that as a job reward over a pay raise, and many would accept a salary cut to achieve the ability to WFH.

The author suggests the key findings of this dissertation comprised the following:

1) For GVTs especially at project outset, where a team had an initial face-to-face meeting it had a positive impact on how the team functioned as it established a working relationship and this was maintained once team members returned to their remote locations.

2) Teams agreed it was very difficult to build a relationship in a GVT if its purpose was project based and particularly during short-term projects. For short-term projects, team members tended to focus on their individual tasks (action items) or commitments to the team and were less focused on establishing any relationships.

3) Many of the people interviewed stated that lack of clear goals for individuals was an issue as they understood what the teams objectives were but many felt they worked in silos, the suggested they missed direction from face to face leadership.

4) With regard to conflict resolution and performance management within the team, the sample group all provided examples of when disagreement occurred and conflict escalated as individuals felt they were operating without the ability to see

visual cues (nonverbal cues) which if visible may have allowed a faster resolution. This is a common problem for remote leaders and team members alike.

5) In general Technology is viewed a very positive tool by all and the majority of respondents agreed it is almost impossible to do the type of work they are doing now without it. Respondents in general feel there is no substitute for face to face and the lack of face to face contact is a barrier to building working relationships, team bonding and in general organisation engagement.

6) It was also suggested that the size of the GVT team was a factor on how successful or beneficial the impact of technology was. In general meetings that had less than ten functioned better as all attendees felt more engaged and participated to a higher level during these GVT meetings as in large GVT meetings people were disengaged

The three main concerns for people working as part of GVT's are documented as trust, collaboration and social isolation. Dissemination of the respondent's data confirmed these concerns.

Trust: respondents appreciate that their leaders must trust that they are working to their full capacity especially when WFH but in turn they can find it difficult to trust that their leader is capable of providing the support they require and also accurately measuring their input.

Collaboration: respondents acknowledged that as GVT members they can operate in silos rather than as a team so success that can be garnered through collaboration can be diminished.

Social Isolation: the flexibility and rewards gained working in a GVT can be diminished by feelings of isolation and advantages that can be derived from working in a team environment are lost.

<u>Limitations to Research</u>

There were limitations to the research of which the author was aware.

The sample used in this research was broad from a geographical point of view as participants were based in USA, Ireland, Malaysia and Singapore. However the sample size was small so the researcher would suggest a much bigger pool would provide a more comprehensive and definitive result. The participation pool used for this research were all employees of the same organisation (Hewlett Packard) and all worked in the global Supply Chain business unit. As every organisation culture changes and evolves over time there is an argument that long term employees (Low staff turnover) can influence the company culture (Fullan, 2014). In this case as Hewlett Packard Virtual Teams culture may not be aligned to external norms. While this research did consider diversity (Both cultural and gender) by interviewing people from 4 different regions and a 50%/50% mix between male and female it was obviously limited by the small sample size.

Chapter 7.   Conclusion

While actively employing techniques to avoid bias and skewed perceptions during the interview process of this dissertation the author could not avoid acknowledging his personal experience of working within GVTs for many years. These are his conclusions.

- Traditional co located leaders tend to exhibit specific traits and behaviours and the findings from this research have supported these theories for the most part, however it is the opinion of the author that if managed correctly future GVTs could achieve maximum levels of productivity and team job satisfaction.

- Traditional co located leadership assigns leaders first and builds teams around these leaders, this may work for co located teams as issues such as interpersonal conflict may be resolved by talking in person with the parties involved in an informal setting – this is not an option for virtual teams.

- Many GVTs are created in the same manner appointing leaders first, often not considering cultural differences and geographical locations of the team members.

- True leadership type roles must come from within the team which allows a natural leader to evolve as the team and project move forward.

- Advanced use of technology can help to alleviate issues associated with virtual team work however there is no 'one fits all' solution to combat the issues arising from managing teams in multiple geographic locations and times zones.

- The most successful GVT leaders in the future would embrace an organic process which would see organisations ideally planting 'seeds' for leadership within teams which encourage autonomy and growth from within which in turn create a 'right fit' leadership which will naturally combat the trust, collaboration and social isolations problems.

- The author suggests that this leads to a new type of leadership, which could be termed 'Organic Leadership'.

- Research has shown that virtual teams can outperform co located counterparts when set up and managed correctly by actually taking advantage of cultural and structural knowledge and diversity.

- One possible negative resulting from the creation of organic leaders suggest individuals who previously were content to work as part of a team and did not perceive themselves as possessing leadership capabilities may suddenly decide they no longer want to work as a team member. They now may want to manage future projects, which may or may not be suited to their individual skill set. Creating a 'too many Chiefs and not enough Indians' scenario. Further research topics!

Chapter 8.   Further Research

This study sought to better understand an Investigation into Remote Leadership and effectiveness of technology in leading employees in Virtual Teams. While the research addressed some areas of interest there are further areas that warrant more detailed explanation. It was expressed by (Siebdrat, Hoegl, & Ernst, 2009) that there is little evidence to suggest that the organisations plan to discontinue using GVT because the continuous advances in technology and globalization is resulting in the ability to instantly connect every country and continent in a manner that was not previously possible. As discussed in Chapter six, the findings of the research suggest that with the rapid rate of technological advances coupled with the lowering cost of this technology, it is likely that telepresence meeting rooms and Virtual reality technology will become more prevalent in all work environments in the future and will no longer be confined solely to large multinational companies. Further research would be recommended to fully understand the impact of this across all industries.

8.1   Recommendation 1

The participation pool selected for this research could be classed as Technology Adaptors who have had to learn how to function in virtual workspaces within their working careers and therefore may have different perceptions of GVT from the outset. Were this research to be completed with a selection of millennial respondents who have been exposed to social workspaces from day one of their working careers and thus may be able to naturally operate much more comfortably in the virtual environment, the researcher suggests greater productivity and inclusivity levels may be recorded. Further research should be completed to evaluate this hypothesis

8.2   *Recommendation 2*

The Long term impact for leaders who are managing GVT which require them to work non-specific work patterns should be researched. In addition, the question of distance highlighted by (Lojeski, 2009) suggests that many organisations do not yet understand the impact of Virtual Distance which she claims can be the silent killer of innovation, productivity, and project success.

Further research should be undertaken regarding potential effects of physical distance on the key factors discussed. Are the levels of GVT dissatisfaction aligned with distance: the greater the miles separating the team members the greater the levels of dissatisfaction?

References

1) Abe, T., & Chowdhury, S. (2012). *World-Class Leadership: Leading Yourself, Your Team, The World And Society.* Singapore: World Scientific, eBook Business Collection (EBSCOhost).

2) Allison, G. T. (1971). *Essence of decision.* Boston: Little, Brown.

3) Armstrong, M., & Taylor, S. (2017). *Armstrong's handbook of human resource management practice pg374.* New York: Kogan Page.

4) Avolio, B., & Kahai, S. (2003). Adding the "E" to E-Leadership: How it May Impact Your Leadership. *Organizational Dynamics 31*, 325-338.

5) Badrinarayanan, V., & Arnett, D. B. (2008). Effective virtual new product develiopment teams; An intergrated framework. *Journal of Business and Industrial Marketing*, Vol23 pp.242-248.

6) Bass, B. M., & Stogdill, R. M. (1990). *Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications.* New York: The Free Press.

7) Bennett, N., Wise , C., Woods, P., & Harvey, J. A. (2003). *Distributed leadership: A review of literature.* London England: National College for School Leadership. Retrieved from National College for School Leadership: http://oro.open.ac.uk/8534/1/bennett-distributed-leadership-full.pdf

8) Berg, B. (2009.). *Qualitative Research Methods. 7th ed.* Boston:: Allyn & Bacon.

9) Bogner, A., Littig, B., & Menz, W. (2009). *Interviewing experts.* Basingstoke, London: Palgrave Macmillan.

10) Bohlin, E., Levin, S. L., Sung, N., & Chang-Ho Yoon , S. (2004). *Global Economy And Digital Society.* Amsterdam:: Elsevier Science Ltd, eBook Business Collection (EBSCOhost).

11) Bolden, R. (2011). Distributed Leadership in Organizations - A Review of Theory and Research. *International Journal of Management Reviews*, Vol. 13, 251–269.

12) Brent, M., & Dent, F. E. (2014). *The leader's guide to managing people.* Harlow, England: Financial Times Pub.

13) Brinkmann, S. (2014). *Interview. In Encyclopedia of Critical Psychology.* New York: Springer.

14) Brinkmann, S., & Kvale, S. (2015). *Learning the Craft of Qualitative Research Interviewing 3rd Edition.* London: Sage.

15) Bryman, A., & Bell, E. (2015). *Business research methods.* Oxford: Oxford.

16) Cameron, E., & Green, M. (2015). *Making sense of change management (pg 147).* London: Kogan Page.

17) Carlyle, T. (1841). *On Heroes, Hero-Worship, and The Heroic in History.* N/A: eBook format on July 26th, 2008 by Project Gutenberg. Retrieved January 30, 2017, from https://www.gutenberg.org/files/1091/1091-h/1091-h.htm

18) Champy, J. A. (2006). *Reengineering management.* Pymble, NSW: HarperCollins e-books.

19) Cole, R. J., Oliver, A., & Blaviesciunaite, A. (2014). The changing nature of workplace culture. *Facilities, vol. 32, no. 13*, pp. 786-800. .

20) Conlin, ,. M. (2009). THE IDEAL VIRTUAL WORKER? *Business Week*, pp. 65-n/a.

21) Creswell, J. W. (2006). *Qualitative inquiry & research design: choosing among five approaches.* London: SAGE, Thousand Oaks.

22) Creswell, J. W., & Poth, C. N. (2017). *Qualitative inquiry and research design: Choosing among five approaches.* London: Sage publications.

23) CultureWizard. (2017, 08 02). *2016 Survey Report: Trends In Global Virtual Teams.* Retrieved from RW3 CultureWizard: https://www.rw-3.com/virtual-teams-survey

24) Duarte, D. L., & Snyder, N. T. (1999). *Mastering virtual teams: Strategies, tools, and techniques that succeed.* San Francisco: Jossey-Bass Inc.,U.S.

25) e learners - History of Leadership. (2017, July 25). *History of Leadership*. Retrieved from elearners: https://www.elearners.com/online-degrees/business/organizational-leadership/what-is-organizational-leadership-faq/

26) Earley, C. P., & Gibson, C. B. (2002). *Multinational work teams: A new perspective.* United States: Lawrence Erlbaum Associates.

27) Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review, 14(4)*, pp.532-550.

28) Eskew, M. (2003). Peak Performance. *Executive Excellence*, vol. 20, no. 12, pp. 13-14.

29) Farndale, E., & Kelliher, C. (2013). Implementing Performance Apprasial::Exploring The Employee Experience. *Hum. Resour. Management*, 52: 879–897. doi:10.1002/hrm.21575.

30) Fullan, M. (2014). *Leading in a culture of change personal action guide and workbook.* San Francisco USA: John Wiley & Sons.

31) Gronn, P. (2000). Distributed properties: a new architecture for leadership. *Educational Management Administration & Leadership*, 28, pp. 317–338.

32) Hamm, J. (2006). The five messages Leaders must manage. *Harvard Business Review*, 115-123.

33) Handy, C. (1993). *Understanding Organizations [Fourth Edition] .* Oxford: Oxford University Press.

34) Harris, A. (2009). *Distributed leadership: what we know. In.* London: Springer.

35) Hersey, P., & Blanchard, K. (1977). *Management of organizational behavior: Utilizing human resources (3rd ed.).* Englewood Cliffs, NJ: Prentice-Hall.

36) House, R. J. (1971). *A path-goal theory of leader effectiveness.* Administrative Science Quarterly, 16, 321-339.

37) Ivancevich, J. M., Matteson, M. T., & Konopaske, R. (2014). In *Organizational Behavior and Management* (p. 10th Edition). New Youk: McGeath-Hill Irwin.

38) Jackson, B., & Parry, K. (2008). *A Very Short, Fairly Interesting and Reasonably Cheap Book about Studying Leadership.* London: Sage .

39) Justesen, L., & Mik-Meyer , N. (2012). *Qualitative Research Methods in Organisation Studies.* Copenhagen: Han Reitzels Verlag.

40) Kayworth, T., & Leidner, D. (2002). The global virtual manager: a prescription for success. *Journal of Management Information Systems*, 18 (3) pp.7–40.

41) Kirk, J., & Miller, M. (1986). *Reliability and Validity in Quantitative Research.* USA: Sage.

42) Lane, J.-E. (2008). *Globalization – The Juggernaut of the 21st Century.* London: Ashgate Publishing Limited.

43) Lewin, K. (1997). *Resolving social conflicts: and, Field theory in social science.* Washington, D.C: American Psychological Association.

44) Lewis, J., & Ritchie, J. (2003). *Generalising from qualitative research. Qualitative research practice: A guide for social science students and researchers.* London: SAGE Publications.

45) Lojeski, K. S. (2009). *Leading the Virtual Workforce: How Great Leaders Transform Organizations in the 21st Century.* New Jersey: John Wiley & Sons, Inc.

46) Lüders, C. (2004). *The Challenges of Qualitative Research.* London: SAGE.

47) MacBeath , J. (2006). Leadership as distributed: a matter of practice. *School Leadership & Management* , Pages 349-366 | Published online: 21 Aug.

48) Martin, D. C., & Bartol, K. M. (1998). Performance appraisal: Maintaining system effectiveness. *Public Personnel Management,*, 27(2), pp.223-230.

49) Martins, L., Gilson, L., & Maynard, M. (2004). Virtual teams: What do we know and where do we go from here. *Journal of Management*, 805-835.

50) Maxwell, J. A. (2012). *Qualitative research design: An interactive approach.* London: Sage publications.

51) McGregor, D. (1960). *The human side of enterprise.* New York: McGraw-Hill.

52) McSweeney, N. (2016, August 29). The Impact of Follower Behaviours on Leadership Effectiveness in Global Virtual Teams. Dublin, Ireland: Author.

53) Minton-Eversole, T. (2012, July 19). *Society for Human Resource Management (SHRM).* Retrieved from Virtual Teams Used Most by Global Organisations, Survey Says: https://www.shrm.org/resourcesandtools/hr-topics/organizational-and-employee-development/pages/virtualteamsus

54) Muldoon, N. (2014, September 1st). An Investigation into employee's perceptions of working from home and how this impacts work-life balance. Dublin, Ireland: Author.

55) Mullins, L. (1995). *Management and Organisational behaviour* (4th ed.). London: Trans-Atlantic Publications.

56) Northouse, P. G. (2010). *Leadership: theory and practice.* Los Angeles: SAGE.

57) Osman, H. (2014). *Influencing Virtual Teams: 17 Tactics That Get Things Done with Your Remote Employees.* San Francisco: Createspace Independent Publishing Platform.

58) Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice.* London: Sage Publications Ltd.

59) PennState University. (2016, July 31). *PSYCH 485 Lesson 6: Contingency and path theories*. Retrieved from Pennsylvania State University World Campus: https://courses.worldcampus.psu.edu/su16/psych485/001/content/06_lesson/01_page.html.

60) Pullan, P. (2016). *PULLAN, P. (2016). Virtual leadership: practical strategies for getting the best out of virtual work and virtual teams. London, KoganPage.* London: KoganPage.

61) Saunders, M., & Thornhill, A. (2012). *Research methods for business students. 6th ed.* Harlow: Pearson Education Limited.

62) Schaffer, R. H. (2010). Four Mistakes Leaders Keep Making. *Harvard Business Review*, 2-6.

63) Siebdrat, F., Hoegl, M., & Ernst, H. (2009). How to Manage Virtual Teams. *MIT SLOAN MANAGEMENT REVIEW*, 63-68.

64) Silverman, D. (2016). *Qualitative research.* London: SAGE.

65) Sinek, S. (2011). *Start with WHY: How great leaders inspire everyone to take action.* New York: Portfolio Penguin.

66) Slade, A. (2015). The psychology of virtual leadership: a little trust in your virtual team goes a long way. *TD Magazine*, vol. 69, no. 3, pp. 12.

67) Spencer, H. (1895). *The principles of psychology.* Unknow: D. Appleton.

68) Spillane, J. P. (2012). *Distributed leadership (Vol. 4).* San Francisco: John Wiley & Sons.

69) Stogdill, R. M. (1974). *Handbook of leadership: A survey of theory and research.* New York: Free Press .

70) Townsend, A. M., DeMarie, S. M., & Hendrickson, A. (1998). Virtual teams: Technology and the workplace of the future. *Academy of Management Executive*, Vol. 12, No. 3.

71) White, R. K., & Lippitt, R. (1960). *Autocracy and democracy: An experimental inquiry.* New York: Harper & Row.

72) Yin, R. K. (2014). *Case Study Research (Design and Methods).* London: SAGE.

73) Yukl, G. (2013). *Leadership in Organizations Global Edition (8th Edition).* United States: Pearson Education (US).

74) Ziek, P., & Smulowitz, S. (2014). The Inpact of emergent virtual leadership compencies on team effectiveness. *Leadership & Organization Development Journal*, 106-120.

Appendices

Appendix 1

INTERVIEW QUSTIONS

Global Virtual Team
1. Confirm your location and the location of your team members.
2. Confirm what your role is within the team (leader or follower)
3. Confirm the team size, both local and global function of this team (project or operational)

Leadership
4. Did the organisation give you the opportunity to meet the teams face-to-face prior to starting working virtually?
   - If so, do you think this might have had an impact on how the team performed?
   - If you have not met team members in advance do you think this was an advantage or disadvantage, Please Explain?
   - In your experience, do you think that team's members behave differently in face-to-face teams versus in the virtual setting?
5. Explain what the biggest challenges experienced by the team having a virtual leader?
6. In your experience, was the leader successful in supporting and leading the virtual teams?
7. Describe examples of when the team faced its biggest challenges and if having a virtual leader contributed positively or negatively towards this?

Technology
8. What Technology is used by your virtual team and please indicate level of interaction?

Communication Mode	Never	Rarely	Sometimes	Often	Always
Telephone					
Skype					
Email					
Halo Room					
Other					

9. How has technology influenced your ability to perform in a virtual team?
10. What are the biggest issues with using Technology as a substitute for face to face meetings/relationships?

Appendix 2

Technology Survey Table

Interviewee	Communication Mode	Never	Rarely	Sometimes	Often	Always
1	Telephone			1		
1	Skype					1
1	Email					1
1	Halo Room			1		
2	Telephone				1	
2	Skype					1
2	Email					1
2	Halo Room					
3	Telephone		1			
3	Skype					1
3	Email					1
3	Halo Room					
4	Telephone		1			
4	Skype					1
4	Email					1
4	Halo Room					
5	Telephone		1			
5	Skype					1
5	Email					1
5	Halo Room					
6	Telephone					
6	Skype				1	
6	Email					1
6	Halo Room					
7	Telephone			1		
7	Skype				1	
7	Email					1
7	Halo Room					
8	Telephone	1				
8	Skype					1
8	Email					1
8	Halo Room					
9	Telephone		1			
9	Skype				1	
9	Email					1
9	Halo Room					
10	Telephone		1			
10	Skype					1
10	Email					1
10	Halo Room			1		
TOTAL	Telephone	1	5	2	1	0
TOTAL	Skype	0	0	0	3	7
TOTAL	Email	0	0	0	0	10
TOTAL	Halo Room	0	0	2	0	0

Appendix 3

Hi (*Participant Name*),

As previously discussed I am currently completing my Dissertation in support of my MBA on the topic "An Investigation into Remote Leadership and effectiveness of technology in leading employees in Virtual Teams.

It is my intention to gain a better understanding of how effectively virtual teams operate and the impact remote management may be having on these teams. I am currently doing some primary research in the form of semi structured interviews and as I believe you fall into my research profile could I ask for your input please? The format is a 40-minute interview that I would like to schedule over the coming days. I will send you a calendar request via email to arrange a time and venue and I will also provide you with the interview questions in advance to allow you can have a think about it. Please note that the interview will be recorded but only to allow me time to analyse the responses. The recording will be held in strictest confidence and will be deleted once I capture the data from all participants. Please also be advised that no individual interviewee's responses will be referenced in the written analysis.

Thanks and regards, Patrick.

Patrick English

Patrick English

Strategic   Procurement   Manager
HP Production Company Limited
Liffey Park Technology Campus,
Barnhall Road, Leixlip, Co. Kildare,
Ireland

E: patrick.english@hp.com
T: +353 1 908 4250

Appendix 4

Non-Disclosure Agreement

The Purpose of this study
The purpose of this research is to carry out an "Investigation into Remote Leadership and effectiveness of technology in leading employees in Virtual Teams"
The study will involve interviews with a sample participants in order to gain a deeper understanding of the participants working lives and opinions on technologies influence on their work-life balance. An interpretive approach will be used when analysing data to conclude with comprehensive findings.

Information for the participant
This non-disclosure agreement informs the participant of the purpose of their involvement in this study.
Participants will partake in a semi-structured interview, which will be recorded on the interviewers mobile device and the interviewer my take notes. The interview will be transcribed for analysis purposes.
Upon signing this agreement, the participant is guaranteed full anonymity. Their name will never be referred to or released at any time during the study or after this study has been concluded.
All data collected, both electronic and transcripts, will be held for a period of one year after the date it was collected. After this period has ended, all data will be destroyed.
By signing this agreement the participant agrees to their comments and opinions being used in the data analysis for this research study. I do not foresee any negative consequences on the participant as a result of their participation on this study.
Participants hold the right to withdraw their comments on a whole or partly, at any stage during the interview and data analysis stages. After the data analysis has been completed and research conclusions have been reached, participants wave the right for their comment and opinions being removed from the study.
Upon this study being concluded, submitted and marked by dissertation examiners, all participants will be given a copy of the study's conclusions.

Confidentiality Agreement

I _____ have read and fully understand the terms and conditions outlined above regarding being a participant in this research study.
I give my permission to be recorded and my comments and opinions to be used on an anonymous basis for data analysis purposes of this research project.
I am participating in this research study on a voluntary basis and I will not be compensated for my participation.

Signed Participant   _____

Date   _____