The Reality of the Virtual Organization – Does it Work in Practice?

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Signed by Student ________________________________
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Abstract

This project aims to explore the theoretical management and the human and social issues underlying the implementation and running of a 'virtual organization'. This will be done through extensive literature research on the subject of Virtual Organizations and proceed to create a framework of critical success factors for the managerial, social and human issues relating to the running of a Virtual Organization. Using the help of a case study the project intends to investigate to what extent and how the theoretical claims that are associated with virtual organizations are actually 'realized' in practice.
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1 Introduction & Project Scope

1.1 Project Aim

The adoption of the Internet for business use has led towards the emergence of increasingly 'virtual' Organizations. The current information systems literature claims that this new form of organization is closely associated with many concepts, with the primary motives of enterprises to ‘go virtual’ being summarized as the following:

- Reduce Costs and Enhance productivity (Apger, 1998; Davenport & Pearlson, 1998)
- Increased satisfaction, closer teamwork, greater flexibility and the retention of valued employees (Rouse, 1999)
- Decentralisation of control, increased flexible working patterns
- The empowerment of the workforce, improved decision making, increased outsourcing
- The paradigm shift from hierarchical organizational structures to flatter organizations

“Rapid changes in customers’ tastes and needs, incredible advancements in technology, phenomenal growth in the internationalization of business, volatile and capital markets, varying employee attitudes, and constantly changing customer demographics are all part of the fluid scenario.” (Christie and Levaty, 1998, p7)

Virtual Organizations are expected to be more competitive than equivalent conventional Organizations. The main reasons cited in the literature is that VO operate with lower costs, are more competitive, faster to market, more innovative, have access to more capital and larger markets. As Christie and Levaty (1998, p7) explained:

“Organizations today must constantly adapt to the ever-changing fiercely competitive business environment not only to be successful but also to survive”

There is a unifying element within all virtual organizations cases; they are created to increase the strategic flexibility for all its participants. However, these emerging forms of organization do contain copious technological, human and managerial issues; involved with both the creation and running of these virtual organizations. Traditional ideas of management and leadership as control and mastery of uncertainty is still widespread and competitive concerns by such management is seen as a barrier to companies entering VO forms (Lynne et al, 2003)
1.2 Objectives

- Define and characterise the concept of a virtual organization in the “digital era” and explore the different managerial issues associated with running such virtual organizations.

- Contrast the conventional organization structures and culture to that of the virtual organization to see how and why we benefit from virtual organizations.

- Establish a framework consisting of critical success factors (CSF) with the purpose of regulating the managerial and social factors within virtual organizations.

- Conduct a case study to test the framework described above and to also assess to what extent and how theoretical claims associated with virtual organizations are actually realized in practice.

1.3 Minimum Requirements

To deliver a solution to the problem, the minimum requirements are;

- To provide a literature review that firstly focuses on the broad definition and characteristics of a virtual organization, then to narrow the literature research down to the human and social issues involved with the running of a virtual organization.

- To analyse a case study to yield qualitative data for analysis. This data will help to provide consensus or contradiction to the underlying theory that has been researched from the literature.

- To develop a framework that can be used for identifying the critical success factors for regulating the managerial and social factors within a virtual organization.
• To provide an evaluation of the framework created, highlighting its potential advantages and disadvantages.

1.4 Deliverables

A report that will contain:

• A literature review exploring research defining a virtual organization and its characteristics

• A literature review exploring the managerial and social issues and challenges faced by virtual organizations

• An analysis of the chosen case study

• The development of the framework and it's critical success factors

• An evaluation of the framework created

• A conclusion to whether virtual organizations do actually work in practice

1.5 Possible Extensions

• Using the proposed framework to try and estimate the efficiency of ‘virtual teams’

• Create a tool to try and measure or quantify ‘virtuality’ and explore it's relevant impact in a global organization

• Creating a framework that would allow an organization to calculate whether or not it is ready for 'virtualisation'.

1.6 Project Schedule

The proposed project schedule has been included in appendix B
2 Virtual Organizations Literature Review

2.1 What Is A Virtual Organization?

The fast evolution of information and global communication technologies in the last two decades has led to the creation of an entirely new organizational form, based predominantly on Internet technologies. This technological vehicle is currently reinforcing the expansion of many service provisions and inter-/intra-enterprise integration in all market sectors.

The current business environment consists of many pressures to change such as the shortening of product development times and hence trying to create shorter and more efficient product cycles. Markets seem to become increasingly consumer-led, with insistent pressures to constantly bring down product costs and initiatives created to take full advantage of such innovative technologies.

Over the last decade, new methods of organizing businesses and the realization of new innovative business strategies have rocked management literature. Organizations look now towards completely new organizational structures to enable them to cope with these rapidly fluctuating conditions and pressures. One such methodology that is receiving a great deal of attention in the literature is virtual organization (VO).

2.1.1 Virtual Organization Defined

The ‘Virtual Organization’ is a buzz-phrase with little sound hypothetical foundation supported only by a variety of incomplete and unconnected perspectives. The terminology can be confusing and misleading if clear distinctions are not drawn between differing forms. It is therefore necessary to create a clear and concise definition for the context of this paper.

Much of the literature refers to the modern approach to organizational strategy as a “virtual organization”. The argument lies here in the fact that it is not an organization, but rather it is a strategy for organizing the elements of a value chain or a characteristic of an organizational approach.

Social scientists and commentators in the past have used a wide variety of adaptive, conceptual forms to try and encapsulate this emerging business paradigm;

- ‘Cyberspace Corporation’ (Pruitt & Barrett, 1991)
• 'Virtual Corporation' (Davidow & Malone, 1992)
• ‘Modular Corporation’ (Clegg & Hardy, 1996)
• 'Mobius Strip' (Sabel, 1991)
• ‘Network Organization’ (Snow et al, 1992)
• 'Innovative Adhocracy' (Mintzberg, 1983)

These terms and their separate perspectives tend to ignore the importance of the integration of technological, management and human perspectives within their definitions, yet at a broader level they describe a comparable phenomenon: a nebulous form of organization whose survival is directly and immediately related to a specific purpose.

Christie and Levary (1998) define a virtual organization as “a temporary network or loose coalition of manufacturing and administration services that comes together for a specific business purpose.” Once the purpose has been met, they explain, the arrangement disassembles. Several very distinctive characteristics are evident in their description of virtual organizations, one such example being that they are “extremely focused, goal driven, and powered by time-based competition”.

Still, the most popular and recent analogy remains to be that of Groth, who argues that although the ‘meaning is seldom clearly defined’ and that there are usually two similar definitions;

(a) Several or more or less conventional companies very closely together... with electronic channels or even common systems as a communication medium.

(b) An organization where a large number of the organization members use electronic channels as their main (or even only) medium for contact with each other and with the rest of the organization ...

(Groth, 1999, pp. 246-7)

Despite the many different technical definitions, and points of view given for a virtual organization, there are many characteristics that are evident in the literature. Virtual organizations make use of technology as the central form of communication, coordination and are particularly useful in meeting the needs of rapid change. Therefore, the literature is
suggesting that there is an inherent element of both flexibility and synergy present within virtual organizations.

### 2.1.2 Virtualness

All organisations unbounded in the physical sense from a single location can be described as being virtual. In this way all organisations have an element of virtuality to them. Organisations, as part of their rationale, seek to minimise discrepancies in time and space consensus (Cooper & Burrell, 1988, pp. 93).

‘Virtualness’ and ‘virtuality’ both incorporate the transformational change of the conventional workplace to its more virtual doppelganger; the ‘workspace’. It is this virtual workspace that provides new possibilities in electronic environments, creating new social structures, organizational hierarchies and corporate cultures. This virtualisation of enterprises affects the organization of work, e.g. conceptual or logical models of organizations such as; business processes and the organization of production and service delivery (Ortner & Stary, 1999).

Seiber and Griese (1997) describe the ‘virtuality’ of a Virtual Organization as having two key features:

1) The creation of a common value chain between distinct entities
2) Distributed IT supported business processes

Venkatramen and Henderson (1998) defined ‘virtualness’ as “the ability of the organization to consistently obtain and coordinate critical competencies through its design of value-adding business processes and governing mechanisms” that involve both internal and external resources. They argue that the purpose of seeking virtualness is to “deliver differential, superior value in the market place”.

However, extending the simple connotation of “virtual” to those that are already used within computer studies, such as “virtual memory”, “virtual reality” and “virtual disks” and the definition becomes almost superficial, to that of an organizational form that has no physical presence; an almost imaginary organization that does not affect reality at all. Surely only a real physical organization can perform and operate in the real world?
2.2 History

“The idea of Virtual Organizations (VO) / Virtual Enterprises (VE) was not ‘invented’ by a single researcher; rather it is a concept that has matured through a long evolutionary process”

(L.M.Camarinha-Matos & H Afsarmanesh, 2005)

The origins of virtual organizations has many deep seeded roots in both management and computing literature, and they first began to appear around twenty years ago, right at the time of the information explosion, (Olson, 1983).

Initially, outsourcing was confined to an organization’s 'hygiene factors' (Herzberg F, 1968), and routine processes, such as production and distribution of goods, organizations were then able to focus more upon their core competencies. For example, the staff canteen is not a critical aspect of most organizations’ core competencies or key business process activities, yet it is often a necessary employee service, so in many organizations such activities were the first to be outsourced to specialist organizations such as catering companies. Over some considerable time, more aspects of an organization became outsourced; including more fundamental process activities – in fact, business process reengineering (BPR) exponents would often recommend that only core-competences should remain as the internal focus.

It was seen as an important advantage as activity is not crucial to an organization gaining competitive advantage within its market. As an extra benefit, these third parties were situated in foreign countries, where labour is much cheaper than in the UK, thus managers found they could;

- Reduce their organizational overheads by removing internal, inefficient services
- Replace any poor performance units for better, cheaper alternative units
- Access a wider range of specialized resources
- Present a unified face to larger corporate buyers
- Allow individual members to maintain their independence and continue developing their niche skills, whilst reshaping and changing members according to the task or project in hand
- Worry less about ‘divorce settlements’ that occur in formal joint ventures

Thus, these dynamic, independent but integrated enterprises, started to operated as single entities. They began to find a greater flexibility to take advantage of the often short term yet intensive operations and collaborations with strategic partners. Moreover, they found the ability to reinvent themselves, regroup and adapt rapidly in response to any unexpected changes or market opportunities.
During the mid 1980's a range of developments such as the use of the Internet and such new and innovative technologies, helped to spur many new international agreements around the world. Organizations began to identify the many opportunities of successfully deploying this technology for competitive advantage. This 'globalization', itself a complex phenomenon, was also being driven by powerful economic forces including market, cost, competitive and governmental factors (Yip GS, 1992). Both of these helped to create new demands upon organizations and, in the case of the new innovative technologies, also offered new design and architectural opportunities.

As Porter noted;

> "we need to move away from the rhetoric about “Internet Industries”, “e-business strategies” and a “new economy” and see the Internet for what it is: an enabling technology – a powerful set of tools that can be used, wisely or unwisely, in almost any industry and as part of almost any strategy."

(Porter, 2001)

Such transformational changes led to the emphasis of networking and communication between various autonomous departments, sometimes dispersed over huge geographical boundaries, which were no longer a problem. The seemingly global scale of production helped to stimulate the cost cutting advantages of sourcing (as mentioned earlier), thus contributing to a flatter, and shorter hierarchy. Similarly, it has become more feasible for many companies to distribute part of their production to various locations around the world where it is economically advantageous.

The change also unveiled new opportunities and challenges for the current management style and organization practices traditionally used. Organizations were grasping Information Systems and Information Technology and aligning them with their current business strategies thus, playing a vital and increasingly important role in their overall competitive strategy.

### 2.3 Forms of Virtual Organising

Every organization must have some form of virtuality, as it simply cannot rely solely upon its tangible assets, (such as its office buildings and warehouses), and its daily routines. It has to rely upon the people within the organization; their own experiences, knowledge and their own informal communication networks.

Thus, it is important to recognise that there can be varying degrees and forms of virtuality in organization and within that organization’s distributed, autonomous groups. Some forms of
organising will be done on a virtual basis, whilst others will still be handled in conventional matter. Very few companies today will be suited to complete virtuality throughout all of their activities as they will always require an established physical communication channel with their customers.

Intranet technology has helped to hugely improve the formation and spread of formal and informal networks within organizations through increased internal communications. Such developments in computer technology over the last decade have now made it possible for newer, innovative working practices to be taken and shaped by managers to help; reduce costs, overcrowding of offices and to make more efficient use of an employee's time and effort.

2.3.1 Hot Desking

One such practice seeks to reduce the cost of maintaining office space for employees via ‘hot desking’. The permanent desk or office is replaced by a pool of temporary desks, which employees can use for as long as they are required. However, when seen through a people-centred perspective, it seems very difficult for any incoming calls to be rerouted to employees that are not fixed to a specific physical location. One such important hygiene factor that affects employees is the need for constantly maintaining any personal belongings in a mobile cabinet.

2.3.2 Teleworking

A more common practice is that of “telework(ing)”, where employees are able to work anywhere where an Internet connection is available; hence breaking geographical and temporal boundaries within a traditional organization. Telework (or home based work) is a form of work that involves interaction with others but is performed 'off-line', i.e. telework is usually seen as an example of cold distributed collaborative working. A literal definition of telework is "working at a distance", however it can range from a 'lifestyle choice' to an imposed corporate policy. Telework has been described as, mobile working, location-independent work, telecommuting, home based working or, more idealistically, working in the electronic cottage.

Whether at home or whilst on the move, the ubiquity of the Internet offers allows for the freedom to work in more pleasant surroundings than that of a traditional office workplace. Conceptually, if one were to ignore current technology then there is nothing new in the idea of housing an activity or several activities without a building as its home. It has never been necessary for any business, where information is the 'raw material', to have all the employees in the same place at the same time.
2.4 Lifecycle of a VO

One of the most important features that distinguish a virtual organization from that of other organizations is the remarkably dynamic and rapid lifecycle that can be adapted. Hence, this makes it possible for virtual organizations to satisfy constantly changing customer market requirements in a competitive manner.

Envision a global marketplace where separate groups and departments can temporarily pool their resources to form a virtual organization, so as to achieve goals that they would be unable to achieve individually, or to provide services more efficiently than what would have been possible if done alone. Once a Virtual Organization is formed, it should act as a single cohesive unit in the context of service provision and provide the required services.

According to Strader (1998), the life cycle of a VO can be divided in four distinct periods:

• **Identification**: At this stage, the identification of potential market opportunities and communication to all organizations takes place. Of course, each organization has the ability to identify opportunities itself.

• **Formation**: After the opportunity selection, an agreement is made about which organizations will participate and the role assignment is conducted.

• **Operation**: At this stage, all participants work towards a common target.

• **Termination**: At this stage, a report is composed. Asset dispersal takes place. (Strader T. et al, 1998)

In the identification stage the capabilities of the services that are needed for a specific aim must be identified. These properties are the basis for a service discovery and the selection of services and also the organizations and potential business partners who can provide these services. Usually, trustworthiness between partners is synonymous to the reputation of each partner, who should possess an appropriate level of expertise relating to their core competency.

During the formation stage the organization would have set up relationships and would have enabled the interoperation of the services provided by different organizations and also the clients. Typically, not only basic services but also complex workflows and configuration information such as (security
and adaptation policies) are required for achieving goals. This also includes the generation of workflow description and the establishment of orchestration services that help the workflows perform properly throughout the operation phase.

During the operation phase all collaborators within the VO can potentially at any time consume services in order to achieve the goal of the VO. Therefore the overall performance is monitored and the policies created within the formation phase are put into place. The generated workflows explained earlier are executed and control mechanisms are deployed to ensure the availability and potential recovery mechanism are in place and are ready for use. Dynamic changes of the VO architecture may sometimes occur as some partners may be replaced or removed as they complete their missions. In such cases the architecture of the overall virtual organization is reconfigured with all changes being communicated clearly to each partner.

When a VO finally reaches it's termination stage, it has fulfilled it's original objectives or the VO was a complete fiasco and the partners were not able to operate together successfully. The reputation of certain business partners will be updated and all resource sharing will be invalidated as to resolve the once commonly used infrastructure.

It is doubtful as to whether this perspective on the VO life-cycle is particularly useful. A number of criticisms have been raised against the e-business maturity ladder and similar problems could be raised here. For example, that isolation is the initial phase is somewhat negative and overlooks those innovative organizations that adopt VO structures out of opportunity exploitation. An issue that can be directed to this particular model is to whether specific margins are the single most important factor motivating the VO life-cycle, thus ruling out the possibility of market penetration, new business ventures or new markets.

Now that we have explored the dynamic lifecycle of a virtual organization it is important to identify that there are different typologies and taxonomies that VO's can adopt. The next section will focus on some of the more commonly adopted architectures.

2.5 **Typologies of Virtual Organizations**

The concept of a VO is that inherently within its structure there are multiple inter-organizational relationships, for which often the metaphor of network or web is used. Virtual Organizations are therefore comprised of many of such collaborations between different firms, in turn creating new
hybrid models; “working together with each other within a lose framework to achieve a mutual goal” (Warner & Morgen, 2004).

However, the difference between a single networked organization and a virtual organization must be made clear, as previously many authors fail to recognise the difference. The difference is not associated with the actual structure of the organization, but more with the behavioural characteristics and life cycle of the organization. Network organizations tend to be stable and are resistant to change (Walker et al., 1997), whereas virtual organizations, in contrast, can involve organizational processes that can facilitate rapid change within a turbulent business environment.

The World Wide Web provides a new base for supporting extended networks, and has required that even experienced managers, who previously have been efficient at managing networks of relationships, need to focus even harder on managing their organizational relationships. Consider two simple concepts of the hierarchy and the market, allowing for exploration into their respective, simple models.

After the creation of these new hybrid organizations, a trend began to develop spurring some commonly recognized network typologies.

### 2.5.1 Supply Chain Network

![Supply Chain Network Diagram](image)

The first and simplest, is that of the supply chain network typology, characterised by a simple configuration that shows all the partners involved within the organization from the start of the product or service through to its completion. Supply chain management (Christopher, 1992) is a frequently used term within manufacturing, retail and consumer good industries that helps to coordinate efficient consumer response times. Such supply chain networks provide inter-organizational management structures to help improve the efficiency of the entire chain.

This architecture of the partners is mostly a fix, although there would be quite a few pre-defined, alternate routings that could be used if and when necessary. However, according to complexity theory, supply chains increase with complexity with every new node that is added to the length of the entire supply chain (Berry et al., 1998). The effect of this is that logistical decisions about delivery operations, forecasting, stock-holding, warehousing, economies of scale and reduced production
flexibility become more and more complex. In summary, these supply chain networks are designed to deal with the rapid fluctuations of quantities that may arise from the different scenarios bought around by the final consumer.

### 2.5.2 Central Partner Network

The second typology is composed of one central business partner who defines the entire business strategy and the entire strategic network. All other partners are directly related and linked to this central partner, and hence it is sometimes referred to as star or hub-and-spoke network typology. The core organisation may be the face of the virtual organisation or itself may create another brand or new image to the façade of the virtual organisation. The other organisations/enterprises that constitute this typology proved a skill, a resource, product etc that the core organisation lacks and needs in order to meet its customer requirements. The central partner should always be in the position to direct and change the entire network based on its political and financial power as well as its management competencies.

The structure in this case is almost similar to a stable hierarchy of suppliers that are all lead by one original equipment manufacturer. One such example of this type of virtual organization typology is within the automotive and telecommunications industries, where tiered networks of suppliers are created.

### 2.5.3 Decentralized Network

The third typology that the virtual organization can adopt entails many mutual relationships between all (or some) of its partners from the network without having a prominent strategic centre. This can be classed as a decentralised version of the preceding star typology, where initiatives could theoretically be launched from any of the nodes within the network. Each member of the distributed core delivers its own service or skill or product in order to help meet the needs of the customer. As there is no central stronghold with any visible strategic leader, the management competencies and initiatives for change are distributed between all of the network partners.
Academic communities, the biotech industry (Liebeskind et al., 1995) and the film industry in Hollywood (Goranson, 1999) all seem to follow this network typology. The flexibility that comes with such a decentralized design allows for the support of projects and joint projects between the different nodes of the network, ensuring that strong codes of behaviour and networks of trust are built with each relationship.

This almost equal-partner approach flourishes in environments like Silicon Valley, (Homa & Evans, 1995), where an entrepreneurial culture and a fascinating ecology of intensive communication links encourages the frequent reformation of new collaborative networks whilst still limiting any domination by major or senior players.

The next section will explore further into the inner workings of virtual organizations and the management and ICT literature concerning how virtuality has affected the structure of work within organizations, especially that of teamwork will be analysed.

2.6 Conventional Organization vs. Virtual Organizations

In modern times, the organization and the concept of organizing have evolved into the ubiquitous presence of bureaucracy amongst large public and private companies. We have already looked at some of the unique characteristics of virtual organizations and some innovative methods of organising virtually, but it is important to compare and contrast these characteristics with that of the conventional organization. Contrasts between the conventional and virtual forms can be observed in four key areas, using a set of criteria for each area.

The first area is concerned with identifying, disseminating and implementing the collective goals of the organization. This also includes the arrangements for providing vital inputs to decision making, communicating the outcomes and controlling the results.

The second area involves criteria that identifies the functions of the members within the organization and also helps to identify whom makes the provisions to govern their rights. This, in respect, contributes to a fluctuating pattern of both vertical and horizontal specialization.

The third area seeks to identify how an organization is able to maintain it's value added system; the system by which any inputs (be it from suppliers or almost anywhere) are turned into outputs that have value (hence adding value through their system). This can usually be maintained by controlling the flow of information and resources across it's own boundaries.
The fourth and final area is concerned with alliances and how organising across the organizational borders are handled. Alliances and strategies for alliance were mostly avoided or discarded due to fears from loss of control and from fear of conflict with allied partners. However, any alliances that were made over and across the borders were primarily vertical integration efforts usually coordinated through the use of an international division.

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<td>Role Preference</td>
<td>Confined roles</td>
<td>Larger expanded roles</td>
<td></td>
</tr>
<tr>
<td>Degree of Integration</td>
<td>Weak: Emphasis mainly on differentiation</td>
<td>Strong emphasis on integration</td>
<td></td>
</tr>
<tr>
<td>System</td>
<td>Oriented for reducing uncertainty</td>
<td>Oriented to signalling the need for change</td>
<td></td>
</tr>
<tr>
<td>Mode of Integration</td>
<td>Via formal procedures and roles</td>
<td>Via direct contact and ICT</td>
<td></td>
</tr>
<tr>
<td>Outsourcing</td>
<td>Vertical integration into large units; little outsourcing</td>
<td>Horizontal integration between smaller units; non-core activities outsourced</td>
<td></td>
</tr>
<tr>
<td>Networking</td>
<td>Only with major stakeholders</td>
<td>Wherever necessary; integral to value chain</td>
<td></td>
</tr>
<tr>
<td>Area Activity and Organizational Component</td>
<td>Conventional Organization</td>
<td>Virtual Organization</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>Alliances</td>
<td>Avoided: fears of conflict and control loss</td>
<td>Extensively used</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Either a loose financially coordinated conglomerate or coordination via an international division</td>
<td>Complex multidimensional architecture; attempts to simultaneously gain benefits of global coordination and local initiative</td>
<td></td>
</tr>
<tr>
<td>Organizing across borders</td>
<td>Primarily vertical integration</td>
<td>Both lateral and vertical integration</td>
<td></td>
</tr>
</tbody>
</table>

This table helps to highlight the main differences and trade-offs between the conventional and traditional and it would seem that virtual organizations would seem to dominate in most areas. So why is it that have not seen a complete shift and had so many virtual organizations emerging thus far?

The conventional hierarchical organization was and still is structured around very clear lines of command and control with a centralized authority. Leadership would have been based through formal authority but distributed amongst the varying hierarchical channels. Tasks and objectives are clearly defined and mandatory for all employees, with their progress and their achievements closely monitored. A place where trust, whether between employees or both employee and employer can only ever exist between people who share the same culture and vision of what is to be achieved and are not strangers to each other.

Newer organizational forms, including that of the virtual organization have evolved to be entirely different with the focus being that of decentralization. The hierarchy has been based on a distributed initiative, creating smaller models, with less channels of authority. We also begin to see an increase in the use of teams communicating mostly via the Internet, which also help to contribute to the decrease in hierarchical size

All virtual organizations rely almost too heavily on this communications technology, both as a repository of information as well as a tightly woven infrastructure for information exchange. With more people having faster, more ‘on demand’ access to the Internet the amount of information now that is available is almost infinite. However, a human’s capacity of absorbing this information is unfortunately finite, which will pose an ever mounting concern about ‘Information Overload’ for managers.
2.7 Summary

Whether virtual or not, an organization is more than just a justified set of arrangements for achieving the desired results through collective efforts. The way that we organise and govern our companies/institutions will also affect the way in which benefits, opportunities and privileges are distributed in society. The next chapter of the literature review will explain the fundamental human and social challenges associated with virtual organizations.
3 Human and Social Challenges to VOs

3.1 Introduction

A virtual organization has a high degree of interdependence between the participant organizations, and its success will depend as much on the reliability of the participants as on the reliability of the technology. This section will look to explore the effect of virtual organizations has on the traditional company values, such as; socialisation, the nature of work, interpersonal communication and the corporate community. Each of these topics has a significant role in the way that organizations are run and are challenges that are faced by virtual organizations.

In order to successfully achieve the shared objectives of a virtual organization the technological, cultural and organizational factors must be blended and balanced successfully whilst being ‘glued’ together by the shared values of all involved. This paper will not look to explore the technological issues and challenges faced by VOs, but rather to review the current management and ICT literature to help explore in greater depth the human and social issues relating to the operation of VOs.

3.2 Interpersonal Communication

People within organizations typically spend over 75% of their time in an interpersonal situation; thus it is no surprise to find that at the core of a large number of organizational problems is poor communication. Effective communication is an essential component of organizational success whether it is at the interpersonal, intergroup, intragroup, organizational, or external levels.

Interpersonal Communication has a great significance in helping to understand organizational behaviour at any level of the organizational hierarchy. ‘One-to-one’ or ‘face-to-face’ communication is almost unavoidable anywhere within the conventional organization environment. Such physical presence, the type that business has always thrived upon is based upon a plethora of both verbal and non-verbal methods of communication. This section will explore the advantages and disadvantages of using computer mediated communication technologies in lieu of traditional face to face communication.
3.2.1 Verbal Communication

Verbal communication is much more than simply speaking and listening. It is often easy to infer something about an individual's current behaviour through the method that they express what they want to say, be it written or spoken. Such behavioural traits can include; anxiety, nervousness, boredom, interest and whether or not he/she is in a hurry. During normal conversation we use such signals habitually, which when effectively interpreted can help to identify behaviours and attitudes co-workers and employers alike.

3.2.2 Non-Verbal Communication

Non-verbal communication is also an essential part of human communication and is an accompaniment to verbal communication. 'Body language' and non-verbal gestures usually help to reveal the strength of the feelings that are created through verbal communication. There are many rich variations of non-verbal communication and behaviour, 136 of which have been identified and categorized into nine separate categories by Maureen Guirdham (Guirdham, 1995, p.165), who describes non-verbal behaviour as a “relationship language” (Guirdham, 2002, p.184). These gestures and cues created from non verbal behaviour can help to identify and communicate our feelings of trust, interest or boredom, like or dislike, agreement or disagreement, and can also help in identifying whether or not an individual is lying.

For management, in face-to-face communication managers can easily exert their influence over their subordinates: both people will know their relative positions and organisational status and this will in turn be reflected in the patterns of conversation and the non verbal cues that will be exchanged.

3.2.3 Computer-Mediated Communication

New and innovative working practices (as explored in 2.3) rely heavily on computer mediated communication (CMC) and computer supported collaborative working (CSCW) tools. There are many advantages to using these technologies as different methods of communication within an organization.

A study taken by Ruberg et al. (1996) revealed that the CMC environment encouraged more experimentation, sharing of early ideas, increased and more distributed participation, and collaborative thinking compared with face-to-face communication. Fears of interpersonal
communication, especially issues regarding status and people with poor language skills, can be overcome easily as receivers have the empowerment of when and whether to respond or not.

However, there are disadvantages to using such communication mediums in everyday work. In such a screen-to-screen environment most of the contact between people will be largely through the use of text in emails, virtual noticeboards, newsgroups and virtual chat facilities. This apparent levelling effect makes it easier for managers to lose their presence, whilst giving the opportunities for employees to direct messages ‘diagonally’ across the organizational hierarchy to their managers peers or even to the highest level of authority!

These communication mediums instantly reduce the social distance between co-workers compared to what is traditionally and commonly used (see section 3.1.2 for the importance of socialization). Such textual communication leads to a lack of expressive richness since no non-verbal cues exist to enhance the desired way of expressing oneself. Comments can often appear more critical than intended and confusion due to misinterpretation can easily arise, thus requiring greater care form those writing and receiving messages.

### 3.3 Socialization

‘Socialization is connected with theories of group processes and organizational culture’ (Nonaka & Hirotaka, 1995)

When people work for an organization, as part of their membership they give up some freedom of action, knowing that the organization can make legitimate demands on their effort and time. Other than through formal training and planned instruction, there are informal processes through which new trainees, apprentices and recruits are shown the basics and what is expected of them. Such standards and values include;

- Familiarizing yourself to everyday social interactions at work
- Adhering to dress/appearance and other company values and traditions
- Attitudes towards work and customers, managers and employers
- Distinguishing good performances from poor or performances
- Involving yourself in social activities after work
- Being exposed to folklore and organizational stories/myths
3.3.1 Knowledge Conversion

Socialization involves newcomers absorbing the values and behaviours required for them to survive and prosper from people who are already part of the organizational culture. Organizational members who have developed their own personal understanding of their work and the skills necessary to perform that work, are able to pass these on to others through personal and social contact. This method of knowledge transfer is crucial for spreading tacit knowledge throughout the organization. This is true for apprentices working with their masters and learning their skills through close observation, imitation and experience.

‘The key to acquiring tacit knowledge is experience’ (Nonaka & Hirotaka, 1995)

Albert Bandura (1977, 1986) an advocate of social learning, demonstrated that we are able to learn such fundamental values from simple observations and imitations of what other people do and how they act. These observations are then crucial in the construction of mental models, that help us foresee and predict environments and scenarios commonly encountered within the organization and hence plan courses of action accordingly.

3.3.2 Teamwork

Socialization is encouraged heavily within teams, as without it team members will be less motivated to work and collaborate together, be it a virtual or normal team. Work is more likely to be produced in isolation and communication between the members of a group will be thoroughly diminished.

“Social activities help team members learn about one another and establish trust essential to successful team performance” (Poltrock S.E and Englebeck G, 1997)

The importance of physical collocation extends well beyond arranged or scheduled meetings. Much of a team’s development occurs through interaction of its members. If there are no occasions to communicate except for within work related matters, trust (as explored later in 4.6) will not be established as communication between participant members of a team will be minimum.

Both “hot desking” and “teleworking” (as explored in 2.3.1 & 2.3.2) share a common problem ground as they both inhibit the use and benefits of teamwork. Humans work better in groups or teams, especially when members of the team are all bound by a certain physical location. Within these teams specific tasks are partitioned to people who are competent with completing that specific task. Hence it
is much harder, when removing this physical boundary, for an individual to be allocated certain tasks and responsibilities within a team.

(The managerial issues and challenges surrounding the running of a virtual team will be explored later in section 4.6.)

3.3.3 Virtualization as Desocialization

The importance of this socialization is to teach the new recruits enough about the organizational world, helping to standardise behaviour and reducing unpredictability (from the senior management point of view). With the apparent “death of distance”, it has become a less frequent occurrence to interact with colleagues and to function almost at arm's length over large geographical areas and time zones, (which is ironically the opposite of what it's supporting technology is able to achieve). In such a dynamic environment how is the social setting for an organization supposed to thrive and prosper?

A large percentage of employees who work from home will find it difficult to combine home life with their work, sometimes leaving them obliged to work and remain available for working much longer than what is realistically expected and necessarily required. The paradigm shift of teleworking fundamentally changes the traditional model of having the home and the workplace as separate entities; to a new form where both the home and the workplace are contained within a single entity.

Thus, virtualisation could be thought of as 'desocialization' due to it's unique characteristics of being able to compress time and space. However, this does not imply that virtualisation leads to individualism, but rather creates an alternative means of socialisation, one that is solely possible through the use of virtual spaces. The social aspect of 'virtuality' also seems to be almost opposed to the idea of being involved in office politics, gossip and organizational culture, a potential panacea to the monotony of much of what is involved in the name of work. Is a sense of place more important as a sense of purpose?

3.4 Community

The social identification of an organization and building a strong sense of corporate identity is somewhat lost within the new rising organizational forms. In theory, virtual organizations then should not be able to produce the same endurance, resilience, and cohesiveness as the more traditional “physical organizations”. Does this mean therefore that virtual organizations have other factors that help to outweigh this handicap?
Human beings are essentially social animals; hence face-to-face contact has been the primary communication channel that we adopt, separating any electronic channel of communication as a poorer medium. Information and communication technologies are commonly being recognized as enablers of 'virtuality', and people in distributed organizations must rely on them in lieu of face-to-face interaction.

Contact via electronic mediums is (as always) better than no means of contact, and email, newsgroups, forums and conferencing (especially video) are all interesting tools for building coherence and help to coordinate cooperation between similarly minded experts spread out amongst different geographical locations.

Imagine using the highest quality video equipment that is available now (probably similar to that used in video conferencing), and compare the experience with that of the physical presence of a human being. Even the best technology still cannot convey and emphasise the importance of human emotions; the environment created within the working atmosphere, the intimacy of lunch or dinner conversations and even a simple handshake between working colleagues.

### 3.5 Summary

We have now seen that there are many human and social issues regarding not only the nature of work but also those regarding communication and socialisation within a virtual organisation. Just as these issues affect the employees of a VO, we shall see that managers who work within the same settings are also affected in similar ways. It is important to now take these human and social issues and focus upon the managerial challenges that managers who work within virtual organisations have to deal with.
4 Managerial Challenges of VOs

4.1 Managing Virtual Teams

Organizations look towards teamwork as a powerful organizational tool for coordinating interdependent activities collectively on a given project or task. As work today becomes increasingly more and more ‘informed’, a large proportion of corporate employees at all levels are transforming into ‘knowledge workers’; whose tasks are computer-mediated (Zuboff, 1984).

This has led to an explosion of many high-technology solutions, all attempting to support the project needs. Furthermore, a major contributing factor to this explosion is the widespread availability of powerful, cheap, and reliable computers, which now have the capacity to introduce new and powerful tools to aid in supporting the management of today's projects.

These newer solutions and the application of the virtual approach have made it not only possible for people to change the way they communicate and collaborate together in the workplace, but has also revolutionised the way that project teams are created and managed, especially across larger organizations. However, there are three common sets of problems that can be found within conventional teams with an explanation of how it's counterpart, the virtual team, can help to overcome these problems.

Firstly, it is very difficult to organize and manage a team along conventional lines without holding various meetings in one specific geographical location. This renders the team highly location-specific, and can also contribute to some sizeable costs in terms of employee travel expenses. With the use of ICT solutions such as emails, group support systems, CSCW and video conferencing, a virtual team can easily communicate and progress with its work without the use of expensive and time consuming gatherings.

The second set of problems is concerned with membership of a team. Conventional teams are usually comprised of it's regular members (insiders) and those external contributors (outsiders). If the membership of the team is limited to a small number of people, it becomes very easy for those outsiders to feel ostracised and devalued. This net result of this is that friction can occur between these two groups of people, whilst also handicapping the outsiders who have very little knowledge of the inner workings of the team. In this scenario, applying the principles of virtuality can yield some great benefits by removing much of this barrier between insiders and outsiders. One important note to
mention here is that teams may be restricted in size due to privacy and security reasons concerning the information used. Paradoxically, when the need for security arises, the circulation and electronic storage of this information facilitates control, simply because the information flow can easily be tracked.

This leads us to the third and final set of problems, again relating to team membership and restricting numbers of individuals within a team. Conventionally, teams were small in size to help cut costs and to make the team more manageable and to allow for a more manageable interpersonal process. The use of virtuality here could lead to the possibility of mobilizing a greater size workforce, potentially drawing upon a wider range of contributions from a larger number of people. A virtual task force of this magnitude would easily be able to complete routine tasks or a project on a schedule and within a budget, especially if they are based upon a high speed communications network with the necessary information systems technologies.

Multinational organizations find that not only must they deal with the ever-present elements of unpredictability, risk and uncertainty whilst conducting activities and tasks involved within projects, but increasingly find themselves assembling teams of geographically distributed individuals with different skills and backgrounds. The real challenge though lies in how to organize and manage this approach effectively.

4.2 Managing the Invisible Worker

Managing employees who are telecommuting or working away from the main office is not so much indifferent to managing employees on site. Managers will find that they still require such generic skills as task and goal setting, assessing progress, managing based on results and giving relevant feedback to employees where appropriate. However, it is immensely challenging for managers to make sure that employees are working and giving the desired time and effort that the work that they are producing requires.

4.2.1 Work Management

Whereas conventionally within an office a manager is able to find an employee and physically see whether they are working or not, new virtual forms of organising make it even more difficult for managers to try and oversee the quality of work in progress. When a lack of communication arises between employee and manager alike, it is becomes a stressful pressure on the working relationship, thus lowering the level of trust in place. The challenge here for the manager is to have a mechanism in
place that allows for him or her to successfully view how much work is being done by their employees whilst not being too intrusive on their privacy.

4.2.2 Selection of virtual Candidates

Motivating an employee to work whilst they are away from the office can be a tough task especially if the employee is not a loyal employee of the company and already has strong organizational links and skills. It is the task of the manager to try and assess whether the candidate has good time management skills, is a self-motivated worker who is able to make independent decisions when and where necessary. If the candidate is new to the organization it will be very hard to judge whether they can show the appropriate responsibility towards the job and the company information and whether the candidate is dependable enough to complete their work on time.

4.2.3 Rewarding Employees

“Reward is a process fundamental to engaging the motivation among members of a company to contribute positively to the achievement of its goals” (Child, 2005)

The challenges for managers here is firstly selecting which employees are good candidates for such working practices and also have a reward structure that will motivate the employees to do their work to a more than satisfactory level. This can include rewarding employees for both teamwork, individual contributions to that teamwork and any individual pieces of work. One of the problems posed for management is to try and contrast the methods of assessing individual productivity levels of employees who work away from the office against that of those employees who work in the office.

4.3 Communication

One of the fundamental challenges behind managing employees who work away from the office is establishing and maintaining strong channels of communication. Managers need to have many different established communication channels such as emails, fax, and phone that they can contact their employees. It is also critical that this communication is two way, with the employees being able to get in contact with their managers when necessary.

Another challenge also lies in regulating how much face-to-face contact with employees is required, especially for those employees who may work overseas or far away from the main office. Regular meetings need to be made to assess needs, give feedback, discuss problems and if anything else, as an
opportunity for the manager to ‘catch up’ with the employee. If this does not happen, the employee may start to feel isolated and contact may be lost, contributing to de-motivation of the employee.

4.4 Trust

Trust is a pervasive concern in everything we do, from crossing a bridge, to engaging in social life. It is a trait that is central to human relationships; one that lies closely to that of honesty and belief, to be put simply as believing in the honesty of others.

'E-business, much like traditional retailing that has been around for thousand of years now, is certainly “based on trust, not security”'

(Whyte W, 2001).

Trust can be thought of as simply a statement of reliance involving others, where certainty is fundamentally based upon one or many past experiences. However, without these past experiences how does one party rely on another party? How is the trust instilled? How can one judge whether other party’s actions are going to be beneficial rather than detrimental? In a report written in 1998, Lau & Whyte define trust as; “placing yourself at hazard to another’s actions, in the belief … that they will act to your benefit” (Lau & Whyte, 1998). Choosing who to trust is just one of the great paradigms and challenges faced by organizations who wish to involve other partners in the formation of a virtual organization.

The next two sections will explore the issues of trust from both an external view, concerning the formation of alliances and relationships and an internal view, focusing on how trust affects work within teams and the possible effects of different cultures and cultural influences on the organization.

4.4.1 Inter-Organizational Relationships

As explained earlier, trust plays a positive and vital role in business relationships, but it is an asset that requires effort, time and sensitivity. John Child (2005) has recognized that there are many key phases of development in the evolution of trust; starting with trust based on calculation, moving onto trust based on understanding, ending finally on trust based on bonding.
Old organizational models of self sufficiency within tightly woven boundaries, concerning specialities and nationalities seem to apply less and less as we strive to new measures of collaboration, ranging from alliances to cross functional teams. Managers are beginning to discover the ever important role that mutual trust plays in the success of such partnerships and projects, for without trust there is no basis for people to start working together in the first place.

Trust in this context is vital for any successful relationship, be it business or otherwise, where either party involved lacks sufficient knowledge of the other partner involved. Under conditions of uncertainty, trust will stabilize the expectations that each party hold for one another and provides the necessary reassurance for the continuation of their collaboration. There are broadly two different bases for creating and instilling trust amongst organizations.

The first is through personal experiences from relationships made with the partner. When both parties share a positive experience of working with each other, inevitably the trust between them will increase. However the problem arises with the initial formation of the relationship; whether choice of partnership is made by calculation, by mutual understanding or built on bonding. The danger found here is commonly through trusting blindly in another without any sound reasoning for doing so.

The second way and more commonly used today is accepting trust through institutional divisions that have the leading brand name for providing trustworthy services. Usually this method involves handing over parts of the organizations operation (outsourcing) to a trusted third party. Organizations buy not only their services but also the assumption that they dare not abuse the trust that you place in them via a highly legal framework.

4.4.2 Intra-Organizational Relationships

Trust generates a willingness to overcome cultural differences and to work through other difficulties that may arise during collaboration between partners. It permits partners to adjust more rapidly to one another, with less conflict whilst creating experience and knowledge about each different partner involved.
Fineman (2003) describes a key problem with trust is the fact that in a VO people have nowhere to meet, none of the physical contact that typically generates and nurtures trust. Can the solution to this trust problem be in creating virtual cyberspaces to replace the physical ones? Trust may even take on new forms in a VO, where face-to-face contact is reduced or in some cases eliminated.

Charles Handy, on the other hand, is not as optimistic and believes that trust is core to a VO and trust dynamics are never as simple as they may seem (Handy 1995). In his paper, Handy explains that the office, “which is, at heart, an interpretative library geared to a particular purpose, and more and more of our economic activity is a churning of information, ideas, and intelligence in all their infinite variety” would not be possible.

4.5 Summary

We have now looked at the broad characteristics of a Virtual Organisation (chapter 2), the human and social issues within a VO (chapter 3), and now the managerial challenges concerned with the operation of a VO. As stated previously the managerial challenges associated with virtual organisations and forms of virtual organising are not so much different from those conventionally used, however it is necessary to further our understanding of these areas through the use of idiographic research using a living example. The areas that have been discussed in the previous two chapters will be used as the basis in the design and structure of the framework of further research that will take place in the subsequent chapters.
5  Idiographic Research Approach

5.1  Introduction

This chapter will describe the research style and approach that has been chosen for the continuation of study into the human, social and managerial issues concerned with running and maintaining a virtual organisation. The chosen research approach for the this paper is a type of idiographic research as the attention of the paper is to try and capture the essence and the richest picture of what is happening within VOs. A nomothetic research stance and structure was considered, but was then discarded in favour of idiographic research due to the context and nature of the enquiry at hand.

5.2  Methodologies Considered

For the purpose of this paper we shall explore three different types of idiographic methodologies that can be used to design, collect and analyse research data through the use of a case study. The three different methodologies that are to be considered for use are an ethnographic study, grounded theory and a case study. The relevant advantages and disadvantages of these methodologies have been discussed followed with a justification for which is the most suitable research methodology for the purpose of this paper.

5.2.1  Case Study

Rogers (1978) describes a case study as 'describing events in a framework within an environment'. The problems are not always highlighted or even made clear; they emerge as the case material is subjected to analysis. A case study is a type of idiographic research method, which aims to understand a phenomenon in its own context and aims to provide the richest and clearest picture of what is happening.

A case study is important because it acts as an important source of empirical verification of what is actually happening as opposed to what may be said in the literature. It not only supports the existence of VOs but also helps to support our recognition of diversity in characterisations of VO. Little is provided in the literature on case studies of VO, which is not surprising, given that this is a new and possibly experimental organizational form. However, the intention here is to source the case study using what has been found from literature specifically providing such studies for research on VO.
A case study will also provide vital resource materials for observing conditions and events relating to the some of the questions (see objectives 1.2) we are addressing in this study. Thus where VO literature misses explicit discussion of questions of importance to the study, the case study should provide sufficient empirical evidence for sources of insights that address probable answers to these questions.

5.2.1      Advantages

Through the use of a case study, it is possible for the researcher to create a conceptual framework and structure any data gathering techniques such as interviews, focus groups and questionnaires to probe the different variables within the framework. This structuring method could be useful in maintaining the focus of research and not losing the focus of the topic at hand whilst also being able to fine tune the aim of the research to produce the required results.

Conducting a case study is a widely recognized methodology that has been used extensively to give an in depth exploration of the social aspects of a chosen topic.

5.2.1.2      Disadvantages

Researchers wishing to undertake and conduct a case study must be very careful when designing of case study research cannot be overstated. More specifically, steps should be taken to ensure construct validity, (both internal and external), transferability, reliability and dependability.

The sample size of the population used in a case study is critical its success. If too small a population is used, then the results that are produced may be biased and not taking into account the general opinions. On the other hand, if the sample size for the case study is too large, the researcher may find they have too much data to handle and that they seem to lose focus on the nature of the research.

5.2.2      Ethnographic Study

Ethnographic study is a specific type of case study research methodology that derives its roots from the field of social anthropology (Rosen 1991). It refers to the qualitative description of human and social phenomena based on research that has been carried out in the field. Ethnography deals with the systematic observations of what people do in their local environments rather than trying to reflect highly idealized models and theories.
Rather than looking at a small set of variables and a large number of subjects ("the big picture"), an ethnographer attempts to get a detailed understanding of his or her desired circumstances through the study of one or many subjects. Ethnography deals with the systematic observations of what people do in their local environments rather than trying to reflect highly idealized models and theories.

The majority of the data in an ethnographic study is elicited through the process of in-person observation, audio/video observation, and interviews. Thus, the results of an ethnographic study are largely qualitative (impressions, opinions, environment descriptions, etc.). Error rates and questionnaire results are examples of the types of quantitative data that can be compiled in an ethnographic study.

### 5.2.2.1 Advantages

The ethnographic method is known by various names, the most common alternative being 'participant observation'. Culture can be seen as information, and ethnography, that defining anthropological product and method, adds a richness and dimensionality to research on culture.

At its simplest, the objective of the fieldworker is to participate and observe the way of life, the activities, of the particular setting of concern. This means that there is a great flexibility in where ethnography can be applied as there are no physical systems that need to be analysed and evaluated, only the social interactions of the study subjects.

Ethnography assumes that the principal research interest is primarily affected by community cultural understanding. This is the reason why ethnography insists on approaching the investigation of a setting without theoretical preconceptions as to what will be found there. Hence, an ethnographical framework can help to assure that these common cultural understandings be identified for the research interest at hand.

Ethnography could be very useful in the context of this paper and VO theory as it could expose the underlying human and social assumptions that employees within a VO take for granted in their everyday work. It would also help to achieve a greater understanding of how employees create their own realities from the precious little information that they are provided with.
5.2.2.2 Disadvantages

There are many assumptions that are made when creating an ethnographical study. One such assumption is that the researcher is capable of understanding the cultural morals of the culture under study and that he or she has mastered the language and technical jargon associated with the culture. The danger here is that the researcher may introduce bias towards perspectives of his or her own culture.

Another disadvantage is that such an approach involves a deep study of the culture and the context of the problem situation at hand. This implies that the researcher may have to stay in the field for lengthy periods of time to develop an empathy with the research subjects. Given the time-scale of this project it seems slightly infeasible in devoting time and effort to gain the in-depth understanding that this research requires.

The sheer volume of data that could be collected over such lengthy periods of time could make it easy for the researcher to lose their way. Also, in certain cases involving constantly changing, dynamic scenarios, there could be inherent problems in trying to make controlled observations and trying to deduce predictions from these observations.

5.2.3 Grounded Theory

Grounded theory is a form of comparative case-oriented explanation-building similar to that of ethnography popularized in sociology by Glaser and Strauss (1967). The aim is to develop theory as close as possible to the ground – that is theory which is grounded in localised accounts and experiences. The theory generated is characterised by a certain ‘fluidity’ emphasising process, change over time and the constant possibility of new situations that do not fit the existing theories.

Grounded theory approaches the data without a preconceived framework – with an ‘innocent eye’. It therefore rejects the idea that knowledge is out there to be discovered and can be retrieved uncontaminated by the act of uncovering it. It is pragmatic in the sense that it regards theory not as a representation of truth but as ideas that will prove workable and useful in making predictions and furthering understanding. In this way, advocates of grounded theory seek a continuous interplay between data collection and theoretical analysis.
5.2.3.1 Advantages

Grounded Theory is claimed to have many important advantages over other ethnographical methods and qualitative research techniques. Other qualitative methods often rely upon the application of general principles rather than a systematic method, making their application and interpretation more difficult. Methods for validating findings and can integrate well with quantitative methods are also provided by Grounded Theory, in fact, both forms of data are necessary in many instances (Glaser and Strauss 1967).

Whereas the conventional scientific method starts with preconceived theories to be tested and then collects data, grounded theory starts with data collection and then induces theory afterwards. This would be particularly useful for research into the human, social and managerial issues concerned with the operation of a virtual organisation – an area that is currently lacking such research.

5.2.3.2 Disadvantages

One disadvantage of using Grounded Theory is that a lot of pressure is put on the skills of the researcher. As there is no pre-conceived framework for creating theories, the flexibility of the researcher is limited to his or her own ability. Again, relating to the skills of the researcher, the idea of dealing with large quantities of messy, unstructured data could be seen as either a significant opportunity or a general recipe for disaster. There is also the danger that the researcher could potentially identify theories and categories for theories prematurely.

This method of research requires great familiarity with the data in order that it can be brought to bear systematically upon the emerging theoretical constructs. The relationship between theory and reality in a Grounded Theory study is a complex issue and the data that has been collected and analysed must be traceable to the theory that it concerns.

5.3 Chosen Methodology Justification

The methodology that has been chosen for use in this paper is that of a case study. One of the main advantages is the flexibility of the case study to either give a broad view over a large population sample, or a great in-depth study over a smaller or reduced population sample.

“Within information systems there is a growing tradition of case studies which might be seen as examples of idiographic research” (Cornford & Smithson, 2006).
Having a purely quantitative approach (i.e. structured questionnaires) to data collection and analysis for the context of this paper would be too insensitive to capture the complex and subtle social behaviour that can occur in Virtual Organisations. Hence, this paper requires a qualitative approach to provide a realistic alternative, and a detailed case study capturing the essence of a relatively small number of scenarios and situations could prove to be the best option.

5.4 Case Study Design

There are many styles approaches that can be used in gathering data for analysis. The type of empirical research data that will be collected depends upon the method and the structure of the techniques. To try and gain as much relevant information and understanding about the inner workings of a Virtual Organisation and the underlying social, human and managerial factors concerned it is critically important that the surveying methods used are as accurate and as fine grained as possible. The next few subsections will focus upon specifically chosen data gathering techniques that will be used in the case study along with a justification for why they are being used.

5.4.1 Questionnaires

Questionnaires are an extremely common and invaluable method of data collection involving case studies, especially if the sample population of the target case is quite high. This can include questionnaires that are created and distributed by post or an online questionnaire that can be distributed via the internet. Although it is predominantly a primary data gathering method, the quantity of data that can be gathered over a short period of time can be very high.

The design of a questionnaire is a very important issue, as the questions that are to be posed have to be structured in a way that can provide answers to the questions and problems that are being explored in the project. A good questionnaire will require some considerable effort to prepare and will cover all the factors of the study that are considered to be relevant and significant.

‘A poor choice of question type can negate responses’ (Cornford & Smithson, 2006)

The design of the questions themselves has to be taken into deep consideration before the final copies of the questionnaire are sent out for data collection. If a question is left too open with a large space to fill in, (for example asking an opinion of a respondent with regards to the advantages or disadvantages
of a technology) could result in respondent bias or may simply be too much of a demand on the respondent’s time and effort.

5.4.2 Interviews

Interviews primarily provide higher quality informative data that seem to be less biased than other sources of data collection. It helps to provide the richest picture of what is actually happening and how people within the scenario/case that is being studied view what is happening – so both the internal and the external viewpoints can be covered and contrasted.

The different types of interview that can be undertaken range from that of a completely structured interview to that of an unstructured interview. In a structured interview, the interviewer will have with himself or herself a variety of different questions that would all relate somehow to different topics and entities that are under enquiry. In an unstructured interview, the interviewer will only provide the names of the topics that they wish to enquire about and expect that conversation will proceed from there.

The most commonly used type of interview draws on the compromise of both of these previously discussed methods as a semi-structured interview. This means that the focus of the questions are explicit in the topics that they wish to explore, however the structure of the interview is left open as to allow a quick shift in conversation if and when necessary.

One of the main problems with conducting an interview as a data collection method is that it can take some considerable time and effort to arrange a suitable meeting time with the interviewee. In some cases where the population of the case study is quite large, it could be a considerable job trying to pick out the correct interviewees who is involved with and has some knowledge of the subject(s) of enquiry.

5.4.3 Observation

Observation is a powerful means of getting first hand experience of a research situation accompanied by a multitude of data resources from working within the field of study. As well as having first hand experiences of the work that is going on around you, the researcher is able to receive visual clues and record details regarding the work environment to help further research.
A researcher undertaking such a method of observation would usually keep a diary to record the events that happened on each day of observation. The reason behind this is not only to have some written record of the events, but also gives a space for the researcher to add his or her own thoughts regarding the different events, which can later be the basis of questions for interviews for contrasting against what the interviewee thinks.

However, this method of data collection is very time consuming for the researcher, as they may find themselves sitting around for long periods of time waiting for events to happen. At the other end of the extreme, the researcher could be involved in a very dynamic and rapidly changing environment, making it much more difficult to keep track of what is going on and what the implications of each event entails for the different participants that are involved. Another problem is that observer bias can occur when conducting observations; the risk that the data collector will only see or hear things in which he/she is interested or the researcher miss crucial information critical to the research.

5.4.4 Focus Groups

‘A focus group interview is an interview with a small group of people on a specific topic. Groups are typically six to eight people who participate in the interview for one-half to two hours’ (Patton, 1990, p. 335)

Conducting a focus group is a powerful of evaluating proposed theories as well as testing out new ideas with a larger audience than that of a one-on-one interview. Due to the slightly larger population of the method it is easy for discussion of opinions and ideas to take place, whether these are between the researcher holding the focus group and the interviewees or between the interviewees themselves. The increased sample population allows for the researcher to use people from all different levels of the organisation to draw out the opinions and information from all levels and views of the environment/scenario of study.

However, great care must be taken before conducting a focus group, if the structure clear enough, then the entire focus of the group can be shifted from that of the original enquiry. Researchers need to make sure that they are able to intervene if and when necessary to help steer the group back to the original focus. Members of the group may also be more dominant in speaking than others, so the opinions of all the people within the group must be taken into due consideration.
5.5 Justification of Case Study Design

*A table summarising the advantages and disadvantages of the different data collection methods has been included in Appendix D*

After considering the relatives strengths and weaknesses of the four different methods of data collection it seems that the best option will be to use a mixture of the techniques discussed previously. However, it is interesting to look how some of the disadvantages of certain data collection techniques are covered by the strengths of some of one or more of the other techniques that can be used to yield qualitative data.

The primary data source for the case study will be an observational study, the reasons for this are explained below;

- Provide a big picture of the industry and external factors the virtual organization works in.
- Recording of the day to day events within the field of study – with regards to what technologies are used and what work is to be done using them.
- Allow for the recording of reactions and hence the creation of assumptions within the field – with regards to what communication mediums.
- Allows for assumptions to be made on the general characteristics of the area of study
- Provide a basis for the secondary data source.

The secondary data source for the case study will be a series of semi-structured interviews, the reasons for this are explained below;

- Allows for in-depth exploration of issues raised in the observation
- Allows for recording more refined qualitative information on the inner workings of a virtual organisation
- Allows for recording more qualitative information regarding the human and social issues of being involved in a Virtual Organisation

The design of the semi-structured interview will not be discussed until after the initial observations have been made. The reasoning behind this is that the qualitative data recorded from the observations will help to identify what questions need to be asked, along with those that relate to the literature that has been discussed in both chapters three and four of this paper.
The information yielded from both of these techniques should then be sufficient for a framework of critical success factors (CSFs) to be created. However, to verify the findings of the research it will be necessary to evaluate the framework using the sample population studied during the first two methods of data collection. To evaluate the proposed framework, a focus group will be held so that the framework can be explained. From this focus group any discrepancies, alterations and refinements can be made to the framework using the criticism and advice of the members in the focus group.

_A diagram summarising the case study design had been included in Appendix E_

### 5.6 Summary

This chapter has compared and contrasted the different methodologies of conducting idiographic research to yield qualitative data for analysis in the field of Virtual Organisations. It has been chosen that a case study will be undertaken, starting with observation in the field as a primary source of data. From this data a semi-structured interview can be created and undertaken to yield secondary sources of data and to also refine concepts exposed from the literature and from the observations. Once the interviews have been conducted, the quantity of qualitative data should be substantial enough to create a framework of critical success factors for Virtual Organisations. After this has been created, the framework will be refined and evaluated through the use of a focus group, involving people from all areas of the target organization.
6 Idiographic Case Study of a Virtual Organisation

6.1 Introduction

The organization that has been chosen to provide qualitative data for research through the use of a case study is “Four Winds Textile Company ltd”, a company working in the textiles industry. The reason behind this choice of company is that all sales from suppliers to buyers are conducted virtually through a team of sales agents, known to the organization as ‘Textile Representatives’. These people work in different places around the UK, usually from home or whilst on the move, but all of their work is conducted via telecommunication tools virtually, predominantly through the use of E-mails.

6.2 Background Information on Four Winds

Four Winds is a small organization, comprising of 15 members of staff in total and being one of the few organizations that can import textiles from the around Europe and the Middle East. The company operates a number of warehouses in different locations around the UK and sells the textiles that they import straight onto large corporate branded firms and small independent clothes designers.

The main clients to Four Winds are usually comprised of large corporate brand designers in the clothing industry such as Next, M&S, Topshop, Anne Summers, Envy and George (ASDA). However, over the past two years, four winds has seen an increase in the number of smaller named designers enquiring into textiles for creating their clothes. One of their proudest customer bases is with one of the fashion schools based in Nottingham Trent University who require a substantial amount of textiles on an annual basis for their classes.

The main office for Four Winds is located in Risley near Nottingham, and is the location of head of the organization, Glen Newton. The building is relatively small with only three offices, one for Mr. Newton and two further offices for his two managers that manage the team of sales representatives working around the UK.

6.3 Four Winds VO Typology

After undertaking a week of observation with one of the textiles representatives at Four Winds, it was clear that the typology was very similar to that of the decentralized network (discussed in 2.5.3). There are a number of different companies based overseas that sell their textiles to Four Winds and a
large number of different entities that will purchase these textiles from Four Winds. These companies will purchase the textiles without any knowledge of the companies from which the textiles originated from. A diagram showing the typology of Four Winds has been included in appendix F.

6.4 Observation in the field

A week was spent in the field with one of the textiles representative employed by Four Winds. By observing his work within his home and his business away from his home office a wealth of qualitative information was collected and assumptions regarding the work environment could be made. During the duration of the week a diary was kept to note any observations. A transcript of the diary can be found in Appendix F, and the focuses of the observations were summarized below;

- The general work environment of an employee of a VO
- The organizational culture and community that the textiles representative is familiar to
- Mediums of communication utilized with the company and the number of times these were used per day
- The human and social factors involved with working for a VO – both positive and negative factors (such as attitudes, reactions, methods of motivation etc)
- Relationships maintained; inter-organizational or intra-organizational

6.4.1 Results Gained from Observation

Here is a list of the different observations that were made regarding human, social and managerial issues of working in a Virtual Organisation. Some of the observations made allowed for assumptions to be created (further detail on observations and assumptions can be found in Appendix G).

General Work Environment

- Situated in a room within his own house dedicated as an office – assumption here is that a separate room helps to separate home life from work life.
- Equipped with a PC with a high bandwidth Internet connection – assumption here is that is a necessity to have these in the office or else textiles representative would not be working from home.
- General lavish furnishings – assumption here is that it helps to motivate and give a sense of professionalism to work surroundings.
• Textiles representative does not wear a suit or any uniform to carry out work from home – *assumption here is that it is the preference of the textiles representative and could be one of the benefits of working away from the main office.*

**Nature of Work**

• Fundamentally based on using an integrated software solution for managing and organizing e-mail messages, schedules, tasks, notes and contacts. – *assumption here is that most of the work done is using such software to manage emails and schedules for meeting suppliers and buyers.*
• Textiles representative prefers to use Microsoft Outlook Express – *assumption here is that he has prior knowledge or training in how to use this.*
• Messages sent to suppliers and buyers usually written up using a company template in Microsoft Word, and then sent as an attachment to an email – *assumption here is that this is done to increase the speed of replies to suppliers and buyers.*
• Spreadsheets involving financial details of transactions are created using Microsoft Excel and then sent to suppliers and buyers via email.
• If a new customer wishes to purchase textiles from Four Winds, this requires a meeting to be scheduled by the textiles representative. In such a meeting the terms of working over the Internet are discussed as well as presenting samples of the textiles that are currently available - *assumption here is that face-to-face contact is required to help to build an encourage a strong relationship of trust before further transactions via the Internet can be made.*
• Files are kept in the office with paper copies of every transaction made including the contact emails involved in setting up the transaction. *Assumption here that all transactions made are required by Four Winds to be kept on paper.*

**Communication**

• Mostly done using email over the Internet with business colleagues, suppliers and buyers. *Assumption – great patience is required through the use of this technology, especially when the software starts to’ misbehave’ and not function properly.*
• Most calls are made using voice-over IP software, accompanied with a portable USB phone. *Assumption here is that this is done to keep communication costs as small as possible.*
• Textile representative owns a mobile phone, but uses this very rarely during a normal working day, usually whilst travelling away from home or the office
Relationships

- Whenever a new buyer establishes contact with a textiles representative, a meeting is always made with the client before business can be conducted virtually. Assumption here is that the face-to-face contact is essential to a working business relationship.

- Even though geographically dispersed, the different textile representatives have good relationships with each other and will contact each other every week or so. Assumption here is that a strong sense of community and shared goals helps to maintain these relationships.

6.4.2 Analysis of Results

The information gained from this primary data collection method highlighted five areas that are of interest when researching in the field of Virtual Organisations. The crucial finding obtained from the observation is that everything is based on a very strong foundation of trust, which affects nearly everything to do with the running of Four Winds. The areas highlighted from the observation are summarised below:

- Relationships & Contacts
- Communication Mediums
- Nature of Work & Skills Required
- Human & Social Factors
- Culture & Community

These areas will be explored further through the use of a semi structured interview (as explained in section 5.5).

6.4.3 Design of the Semi-Structured Interview

The semi-structured interview is to be used as a secondary source of qualitative data collection that will help to explore some issues that were highlighted from the observation.

The structure of the interview will be loosely based on the five areas that have been identified in section 6.4.2, and should help to build upon these ideas. The data collected should be substantial enough to create a framework of CSFs for the human, social and managerial issues underlying the running of a VO. The interview should also help to clarify the assumptions that have been made with regards to the observations recorded and to also contract these with the literature that has been explored in sections 2, 3 & 4.
The complete draft of the semi-structured interview can be viewed in appendix H.

6.5 Interviewing three members of a VO

Three employees of Four Winds Textiles Company Ltd were interviewed using the same semi-structured interview method to see if there were any different opinions regarding the same topics covered could be inferred. Two of the employees (Mr. J Mace and Mr. B Newton) are textiles representatives (one of which was studied in the observation), whilst the other member of the organization worked at the main office in a higher organizational rank (Mr. G Newton), managing the two textiles representatives interviewed. The interviews were conducted during work hours, so availability was a crucial issue as all of these employees have very demanding schedules, including travelling long distances each week. The interview conducted was to take up to a maximum of forty five minutes as not to disturb their work too much.

6.5.1 Analysis of Results Obtained from Interviews

The qualitative data that was collected from the two different textiles representatives were very similar as they both had very similar attitudes to their work. The senior manager, Mr. G Newton had some very interesting ideas about how work is conducted within Four Winds and especially how trust and contact with not only his employees but with other organization was crucial.

Below are some of the points highlighted from the interviews with the two textile representatives. Please refer to Appendix H for reference to the questions asked during the interview and please refer to Appendix I for collective results of the interviews regarding the five areas stated earlier.

- All working relationships are based on a very strong foundation of **trust**
- Business is always conducted primarily on **face-to-face contact** as to ensure a healthy bond and working relationship. Decisions made at this stage in the business relationship are of paramount concern, hence face-to-face contact is essential.
- Working from home is definitely suited to some employees and not to others – an essential prerequisite for this type of work is **knowledge** in using **telecommunications mediums**
- All employees must sign a **contractual agreement** with the company stating their hours of **mediated availability**.
• The organization must schedule **regular meetings** with all employees during the working year, be it formal or informal meetings to help ensure a strong sense of corporate culture and community.

• The organization must make sure that all of their **goals and objectives** are communicated to all employees at all levels of the organization.

### 6.5.2 Creating a Framework of CSFs for a VO

From these two methods of data collection (observation and semi-structured interview) there was enough qualitative data to create a framework of critical success factors (CSFs) to ensure the successful running and maintenance of a Virtual Organization. The data collected alongside the literature already reviewed suggests three different sets of criteria relating different areas within the VO; the organization itself, the managerial level and the employees.

**Critical Success Factors – Organization**

- A strong sense of corporate community and culture is required to help ensure loyalty of employees, this can be obtained through the use of formal and informal meetings
- Employee travel and communication expenses must be compensated for by the organization
- Ensure all employees are contactable via multiple communication channels
- Ensure that a healthy business partnership is created with external business contacts
- Ensure that there will always be a human channel of availability for both internal and external contacts
- Clear reward structures and career prospects for employees must be defined, as this will help to motivate employees to complete their work in a more than satisfactory way

**Critical Success Factors – Management**

- Regular and scheduled face-to-face contact must be made with employees to: review and monitor progress (giving feedback when and where necessary), ensure a healthy working relationship
- Be easily contactable via multiple communication mediums (even more so than a regular employee)
- Keep the job structure of the employees to specialized roles from that of flexible roles – ensuring that employees stay focused on what they have to do
- Any formal actions taken towards misconduct and poor work ethos must be communicated clearly to employees
Managers must make sure that they pick the correct candidates for virtual working – a three month trial period could help ensure correct choices of employees for virtual work

**Critical Success Factors – Employees**

- Employees must have the knowledge and skills to be able to communicate via many different communication technologies
- Employees must promote a sense of professionalism when dealing with external contacts (e.g. wearing a suit and general professional attire, acting in a professional manner)
- Employees must be able to complete work in a timely fashion
- Employees must be contactable in working hours
- Employees must declare a space (preferably an entire room) for work – this will to separate work life from home life
- Employees must declare that they will not abuse any company materials, equipment or information provided by the organization whilst working virtually
- Employees must ensure total clarity when communicating virtually (due to the lack of verbal and non verbal cues)
- Employees travelling around should still be contactable by the organization; usually this would mean having the organization provide employees with a mobile phone

The research conducted has shown that these three entities are linked together via telecommunications technology; the fundamental ideal behind a Virtual Organization. However, there are other links that need to be established between these entities to show that they are linked together from more than just a technological stance. The diagram attached in appendix I will show the different links between these entities based on a huge triangle of trust.

### 6.6 Evaluating the Framework using a Focus Group

Now that the framework containing the CSFs for working in a Virtual Organisation had been completed, it needed to be evaluated by a number of external entities as not to be evaluated under potential researcher’s bias. For this reason (as stated in section 5.5) a focus group would help to gain multiple feedback on the critical success factors for each of the three entities identified and also the links between these different entities. The employees of Four Winds involved in the observation and the interview were invited back as well as two other randomly selected people to view the framework and to add their comments accordingly. The flipchart slides from the focus group are included in Appendix K.
Positive Factors produced by the Framework

- The general feelings of the focus group towards the framework were that framework was easily understandable even for those who have not worked in a VO
- Anyone at any level within the organisation would be able to use this to help them understand the human, social and managerial issues behind the running of the Virtual Organisation
- The CSFs for each of the thee areas identified were concise and clear – no extra explanations are required

Criticisms of the Framework

- There is no inclusion of virtual teams within the framework and that an employee could potentially belong to one or many virtual teams.
- There is no inclusion of telecommunications technologies. Although the focus group understood that it was a fundamental part of a VO there was no inclusion of the technology and how it is constantly being upgraded and improved all the time
- There was no inclusion of Computer Supported Collaborative Working Systems (CSCW) – this is an area that could be beneficial to both managers and employees.

6.7 Research Conclusion and Summary

This project has explored the area of Virtual Organisations and attempted to create a framework that can be used to show the critical success factors required for the smooth running of a Virtual Organization. The underlying conclusion that can be drawn from this research is that Virtual Organizations do work in practice and have many advantages over a traditional organization.

However, for a virtual organization to thrive and prosper there still needs to be a strong base of trust in the telecommunication mediums and the people who will be using them for their everyday work. It also seems that total virtuality will never suit an organization as there will always be a requirement for a human channel and for regular face-to-face contact; be it internally within the organization or between different external organizations. Paradoxically, it can be inferred that the technologies allowing us to work further apart from one another still require us to be drawn almost closer together for the creation of a strong, trusting relationships. Without trust, a VO would not be able to function properly and hence not be able to work in practice. Also there even the best technology available can never be a permanent substitute for real face-to-face human contact.
7 Project Evaluation

7.1 Introduction

This section will focus on the project itself to see if the objectives have been completed and to what degree each of the objectives was met. The following sections will provide an overall evaluation of the project.

7.2 Project Criteria & Deliverables

The solution produced in this project has met the minimum requirements that were stated at the beginning of this paper in section 1.2. The deliverables for the project were also stated in section 1.4 but are very closely related to the objectives. Here the objectives and their deliverables have been restated along with the explanation of how they were accomplished and where within the report the specific sections relating to the criteria can be found:

- Define and characterise the concept of a virtual organization in the “digital era” and explore the different managerial issues associated with running such virtual organizations. – This concept of a Virtual Organization and its characteristics were explained in section 2 of the report. The managerial issues surrounding the running of a virtual organization was reviewed in section 4 of the report

- Contrast the conventional organization structures and culture to that of the virtual organization to see how and why we benefit from virtual organizations. A section of research literature was assigned to this and a table was created in section 2.6 of the report

- Establish a framework consisting of critical success factors (CSF) with the purpose of regulating the managerial and social factors within virtual organizations. The framework of critical success factors was created in section 6.5.2 of the report

- Conduct a case study to test the framework described above and to also assess to what extent and how theoretical claims associated with virtual organizations are actually realized in practice. Although the case study was undertaken before the framework was created, a focus group was conducted to test and evaluate the framework in section 6.6 of the report
7.3 Further Improvements & Possible Extensions

In section 1.5 a list of possible extensions to the project were described before any of the research was undertaken. Although these were unfortunately not completed due to the length of time required to conduct the case study and finalize the report, I feel that given more time they would have proved as a useful addition to the project. Below is a list summarizing the possible extensions and further improvements to this project predominately for future students:

- Using the proposed framework from this project to try and estimate the efficiency of ‘virtual teams’ within Virtual Organizations

- Create a tool to try and measure or quantify ‘virtuality’ and explore it's relevant impact in a global organization

- Creating a framework that would allow an organization to calculate whether or not it is ready for the transition into 'virtualisation'

- Creating an assessment of computer supported collaborative working tools that could be utilized by a Virtual Organization such as Four Winds. The aim would be to populate a list of suitable technologies that could be used to aid the working practices and improve the overall efficiency of a VO

- Using the framework created from this project and using more qualitative data sources to help justify the framework and add extensions to it. If possible try to create a generic framework that can be applied to Virtual Organisation of all sizes.

7.4 Project Schedule

The proposed project schedule has been included in Appendix B and the actual project schedule has been included in Appendix C. One of the main problems with the project schedule was that there was not enough time allocated to finding a suitable Virtual Organization to use for the case study. During the Christmas period the project grinded to a halt as the search for a suitable case study seemed to take a lot longer than necessarily anticipated. This meant that the entire project was thrown off schedule and that most of the case study research then had to be conducted during the Easter period when contact with Four Winds could be made.
Despite this problem it is believed that the project schedule was very accurate and that even with this delay, the project would still be finished on time. This seemed to be the case although the remaining time left during the Easter period meant that the project had to be

### 7.5 Evaluation Conclusion

In conclusion, the minimum requirements for the project have been completed and although the project was unable to include any of the extensions proposed in section 1.5, a great understanding of Virtual Organizations and also a great deal has been learnt regarding project management, conducting a case study and handling third parties. All of these are valuable skills that seem to have been learnt on top of the minimum requirements stated, hence almost exceeding them.

The main pitfall of the project was mainly the lack of qualitative research data that could be collected as only a small sample was used for the case study. Given more time, a larger population could have been studied as well as utilizing four or more different Virtual Organizations to compare and contrast the human, social and managerial issues surrounding them. Furthermore, it is possible that the qualitative data collected from the case study did not fully reflect the issues that the research was aimed at.

Overall, it is believed that this report has been successful in achieving its objectives and minimum requirements and that all the work conducted has been done so in a professional and methodological manner. A full reflection on the project experience has been included in Appendix A.
Bibliography


Child J, 2005, Organization; Contemporary Principles and Practice, Blackwell Publishing, UK


Cooper R & Burrell, 1988, Modernism, Postmodernism and Organisational Analysis: An Introduction, Organisational Studies, 9(1), pp. 91 – 112


Snow C C, Miles R E, Coleman H J Jnr, 1992, Managing 21st Century Network Organizations, Organizational Dynamics, Winter, pp. 5-20


Appendix A – Personal Experiences

Introduction

My personal experiences of this project are essentially mixed but I am very thankful to have had the chance of putting all the skills and theories learnt in the last three years of my University education into practice. Undertaking this type of research project has proved to be an interesting yet very difficult task and I believe that this project experience has increased my knowledge of other subject areas as well as improving on my report writing style and technique; a skill that is invaluable to any professional role.

This reflection will highlight some of the areas that students undertaking this type of project should be wary of, as well as giving advice on the sections that, in my opinion, went well and those that did not go so well.

Lessons Learned

There are many important lessons that this project has taught me. Perhaps one of the most important lessons is to make sure that the project plan that you create must be realistic and achievable. The reason behind this is that over the length of time that is allocated for the project, absolutely anything could happen and you never know what kind of setbacks, problems and challenges you may face around every corner. You can also never estimate what areas and stages of the project you may become stuck at which will inevitably hamper your project progress, so always try to allow ‘slippage’ time to compensate for this.

The next lesson is to make sure to choose a project area that you are interested in. I have always been interested in Information Systems since starting my degree, and throughout the course of my degree I became very interested in what goes on behind the scene with regards to the human and social issues of people working with and having to manage information systems on a day-to-day basis. Before I started the project I must confess that I had never even heard of a ‘virtual organisation’ but knew vaguely of the theory behind it from my Information Systems lectures. It was for this reason that I chose to undertake this project and to explore what human, social and managerial factors are crucial to the success of the Virtual Organisation and how they differed from that of a conventional organisation.
If there is one lesson that students should learn it is that the advice and help of the project supervisor is invaluable. Students should not be scared of their supervisor and should maintain a healthy relationship as they fulfil a valuable number of key roles within the lifespan of your project and help to provide feedback at every instance possible. Also, any constructive criticism given by your supervisor should not be taken to heart, they are not there to try and de-motivate you from working, but are there to guide you along the right track that will hopefully end up in creating a good project.

The last lesson learnt is to make sure that you maintain full contact with any external of their parties that may be involved and make sure that this is done as early as possible. One of the fatal flaws to this project was that due to unforeseen circumstances the business that was used for the case study research was not contacted until very late on. This meant that after a certain period of time, the project had to grind to a halt whilst observations and interviews were being conducted to yield qualitative data for analysis. This then created delays which in turn meant that the speed of the project had to be increased as to fulfil the original deadline.

**External & Third Parties**

As stated above, it is of paramount concern that any contact be established as early as possible in the project schedule. However there are a few pointers that I can give to students regarding conduct and behaviour whilst working with these external parties.

- Try to be as courteous as possible; these people have dedicated their time from their busy working schedule to help you with your project. The least you can do is to show them respect as inevitably it is you who will be disturbing their time

- Try not to confuse any employees with technical knowledge or know how that you may have learned in your course. Clarity is essential when trying to get qualitative data from your sample population
Appendix B – Proposed Project Schedule

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<td>Feb-07</td>
<td>16</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar-07</td>
<td>15</td>
<td>13</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Apr-07</td>
<td>13</td>
<td>15</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>May-07</td>
<td>16</td>
<td>15</td>
<td>13</td>
<td>16</td>
</tr>
</tbody>
</table>

*Note: Activity schedule is illustrative and may vary.*
Appendix C – Actual Project Schedule

<table>
<thead>
<tr>
<th>Activity</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase 5</th>
<th>Phase 6</th>
<th>Phase 7</th>
<th>Phase 8</th>
<th>Phase 9</th>
<th>Phase 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Description</td>
<td>Notes</td>
<td>Notes</td>
<td>Notes</td>
<td>Notes</td>
<td>Notes</td>
<td>Notes</td>
<td>Notes</td>
<td>Notes</td>
<td>Notes</td>
<td>Notes</td>
</tr>
</tbody>
</table>

- **Total Number of Hours Worked**: 300
- **Christmas Holiday**: From 20th to 25th
- **Easter Holiday**: From 10th to 14th

**Activity List**:
- 1. Site Visit - Site meeting
- 2. Site Visit - Site meeting
- 3. Site Visit - Site meeting
- 4. Site Visit - Site meeting
- 5. Site Visit - Site meeting
- 6. Site Visit - Site meeting
- 7. Site Visit - Site meeting
- 8. Site Visit - Site meeting
- 9. Site Visit - Site meeting
- 10. Site Visit - Site meeting
- 11. Site Visit - Site meeting
- 12. Site Visit - Site meeting
- 13. Site Visit - Site meeting
- 14. Site Visit - Site meeting
- 15. Site Visit - Site meeting
- 16. Site Visit - Site meeting
- 17. Site Visit - Site meeting
- 18. Site Visit - Site meeting
- 19. Site Visit - Site meeting
- 20. Site Visit - Site meeting
- 21. Site Visit - Site meeting
- 22. Site Visit - Site meeting
- 23. Site Visit - Site meeting
- 24. Site Visit - Site meeting
- 25. Site Visit - Site meeting
- 26. Site Visit - Site meeting
- 27. Site Visit - Site meeting
- 28. Site Visit - Site meeting
- 29. Site Visit - Site meeting
- 30. Site Visit - Site meeting
Appendix D – Strengths and Weaknesses of Data Collection Techniques

This table summarises the different data collection techniques that can be used to collect the qualitative type of data required from a case study.

<table>
<thead>
<tr>
<th>Data Collection Technique</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Questionnaire</strong></td>
<td>• Less expensive</td>
<td>• Often a low rate of response</td>
</tr>
<tr>
<td></td>
<td>• Permits anonymity</td>
<td>• Questions can be misunderstood</td>
</tr>
<tr>
<td></td>
<td>• May result in more honest responses</td>
<td>• Cannot be used to illiterate with respondents</td>
</tr>
<tr>
<td></td>
<td>• Does not require research assistants</td>
<td>• Quantitative measures need to be verified</td>
</tr>
<tr>
<td></td>
<td>• Can eliminate some bias by structuring questions appropriately</td>
<td>• Respondents may lack self awareness and miss out crucial information</td>
</tr>
<tr>
<td></td>
<td>• Relatively quick turnaround</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Permits clarification of questions</td>
<td>• Expensive in terms of time and effort for preparation</td>
</tr>
<tr>
<td></td>
<td>• Permits in-depth exploration of information</td>
<td>• Analysis of open ended data is more difficult and time consuming</td>
</tr>
<tr>
<td></td>
<td>• Permits in depth exploration of spontaneous remarks by interviewee</td>
<td>• Interviewer may inadvertently influence the interviewee</td>
</tr>
<tr>
<td></td>
<td>• Higher response rate than questionnaires</td>
<td>• May gain less information on events than through observations</td>
</tr>
<tr>
<td></td>
<td>• Good for measuring attitudes and other contents of interest</td>
<td></td>
</tr>
<tr>
<td><strong>Observation</strong></td>
<td>• Gives more realistic and in depth information of events</td>
<td>• Ethical issues of privacy and confidentiality may arise</td>
</tr>
<tr>
<td></td>
<td>• Allows for collection of data that would not be permitted in interviews</td>
<td>• Observer bias may occur</td>
</tr>
<tr>
<td></td>
<td>• Provides a window into the respondents thinking</td>
<td>• Presence of data collector may influence the situation observed</td>
</tr>
<tr>
<td></td>
<td>• Observer can determine what does not occur</td>
<td>• May require training of research assistants</td>
</tr>
<tr>
<td></td>
<td>• Helps with the understanding of contextual factors</td>
<td>• Data analysis can be very time consuming</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cannot observe large populations of subjects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hard to record results in a rapidly changing dynamic environment</td>
</tr>
<tr>
<td>Focus Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>• Allows for probing of topics</td>
<td>• May be dominated by one or two participants</td>
<td></td>
</tr>
<tr>
<td>• Allows multiple feedback from different sources</td>
<td>• Measurement validity may be low</td>
<td></td>
</tr>
<tr>
<td>• Can involve many levels of the company at the same time</td>
<td>• Focus of group can drift if not steered correctly</td>
<td></td>
</tr>
<tr>
<td>• Provides a window into the thinking of the interviewees</td>
<td>• Difficult to generalize results if small, unrepresentative samples used</td>
<td></td>
</tr>
<tr>
<td>• Useful for exploring ideas and concepts</td>
<td>• Should not be used as the only data collection method in study</td>
<td></td>
</tr>
</tbody>
</table>
Appendix E – Case Study Design

This is the case study design that has been explained in chapter 5. It was followed exactly according to the diagram above.
Appendix F – Typology of Four Winds Textiles Company Ltd

Textile Manufacturers based in Europe and the Middle East

Physical Contact

Virtual Link

Four Winds Textiles Company Ltd

Physical Contact

Virtual Link

High Street Brand Retailers and smaller designers

Virtual & physical contact

Customers

62
## Appendix G – Diary of Observations

### Software used:

- **Microsoft Word** – prepare documents to be sent via email. Templates are used to save time where and when possible.
- **Microsoft Access** – keep a database of peoples contact details, including that of other firms (suppliers and buyers) (NOTE: textiles representative set this up himself – maybe a skill that other textiles representatives do not utilize)
- **Microsoft Excel** – prepare small accounting sheets to show the costs of each transaction made.
- **Microsoft Outlook** – textiles representative uses frequently for communication and regularly sends attachments with his emails.

### Table:

<table>
<thead>
<tr>
<th>Day No.</th>
<th>Date</th>
<th>Observations</th>
<th>Assumptions</th>
</tr>
</thead>
</table>
| 1       | Monday 10/04/06 | Working space had been allocated in one room of subjects house for work  

The subject sits at the computer most of the day, mostly waiting for enquiries to be sent his way. Whilst waiting for such emails the subject will be sending out emails to publicise new textile imports/products available as well as sampling the quality of the imported textiles for himself.  

Most software applications used are generic desktop publishing software. Subject mainly uses Microsoft Outlook Express and also uses SKYPE voice over IP software allowing him to make phone calls over the Internet. | The work space is part of a contractual agreement made with the organization  

The subject is free to wear whatever he likes as he is in the comfort of his own home.  

There are no extensively used software package or group ware and CSWS tools used.  

Subject is very competent in IT skills – assuming an essential pre-requisite to working away from the main office. |
<table>
<thead>
<tr>
<th></th>
<th>Tuesday 11/04/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Travelled to meet a new potential buyer of textiles in Chesterfield – all travel expenses compensated for by Four Winds. Subject is still contactable by the organization whilst travelling through the use of his mobile phone. Observed as a new business link was made with a new textile buyer and further communication will be made on a virtual basis</td>
</tr>
<tr>
<td></td>
<td>If a first time/new buyer inquires then a meeting is set up to discuss the business plan. Details of delivery and how further business is made over the Internet is discussed Any face to face contact with a potential supplier or buyer is made in a professional manner – e.g. Subject will wear a suit as opposed to clothes worn the previous day.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Wednesday 12/04/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>The subject spent the day processing orders that had been collected since the previous day, including an order from the new buyer from yesterday. Although the subject works a typical 9-5 day, work did not finish until 8pm. Comment made by the subject: 'how good it is not to have to wear a suit at home'. All copies of emails and transactions were printed out and kept in a folder for backup</td>
</tr>
<tr>
<td></td>
<td>Although the work day could be quite intense or quite slow, there is a designated time that the subject must be contactable by the company. Deadlines are very strict – if work is not done on one day then it is possible to cram all remaining work into a subsequent day – the subject has a choice of what times he wants to conduct his work. Subject prefers to work away from the office.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Thursday 13/04/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Subject showed me his equipment given to him by the company that he can still be contactable whilst visiting suppliers overseas. Equipment: - One Dell Laptop with SKYPE installed - USB Phone attachment - One Tri-band mobile phone</td>
</tr>
<tr>
<td></td>
<td>Even overseas, the subject is still able to work no matter how geographically distant he is from the office – as long as there is an Internet connection that can be used. Mobile phones are used as an almost last resort method when travelling outside the UK. SKYPE is the preferred choice as</td>
</tr>
</tbody>
</table>
Subject remarks that “Finding a hotel with in-room an Internet connection is essential – “we probably wouldn't be able to work away without it. The mobile phones are more for emergencies than anything” we rarely use them”
call cost are very cheap.

<table>
<thead>
<tr>
<th>5</th>
<th>Friday 14/04/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visited the main office to meet the owner of Four Winds, Mr. Newton in Risley. Building is very small, with 3 offices in total, with a total of three computer terminals.</td>
<td></td>
</tr>
<tr>
<td>Visited one of the warehouses where textiles are imported from suppliers. It contains one small office where details of shipments are sent and received electronically.</td>
<td></td>
</tr>
<tr>
<td>Building very small – as to keep property costs and utility expenses as low as possible.</td>
<td></td>
</tr>
<tr>
<td>Warehouse shipments and deliveries are conducted via emails received and sent from the textiles representatives and the textile manufacturers based overseas.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix H – Semi Structured Interview

With using a semi-structured interview, the researcher is free to ask questions based upon a loose structure of questions. In the event that the interviewee produces important research data, then the loose framework allows for the objective of the interview to be steered to how the researcher requires. Some of the questions below have text written in italics to show what the perceived meaning of the question is to show what kind of qualitative data is required from the interviewee.

**Nature of Work**

- What is your main motivation for working away from the office? *(Working from home you have no one to constantly monitor you and watch over you, what motivates you to work?)*
- Do you find it difficult to work whilst travelling or whilst away from the UK?
- Did you require any training before you were able to work at home? *(Or is it just taken for granted that you have the necessary skills to work virtually?)*
- What are the three most important factors about how you achieve your day to day work?

**Culture & Community**

- What makes you feel like you belong to the company? *(What does the company do to make you feel like “part of the team”?)*
- Are the company goals and objectives communicated clearly to you from senior representatives within the organization? *(Do the senior management make it very clear to you what they expect from you and your work?)*
- Does the company organize many social events throughout the year? *(What methods do the organization use to get their employees to socialize and familiarize themselves with their work colleagues?)*
- How well do you know other members of the organization even though some are dispersed all over the UK?

**Communication Mediums**

- What communication medium would you use the most in an average working day?
- What do you believe are its strengths? *(Why do you think a virtual organization bases itself on telecommunications technologies?)*
- Which other communication mediums do you utilize?

**Relationships**
• How often do you contact your manager? *(Is contact regular? scheduled?)*

• How important do you feel it is to go and see your manager in person as opposed to simply communicating via phone or email? *(How important do you perceive face-to-face contact to be internally within the organization?)*

• How well do you keep in touch with your suppliers overseas? *(How important is face-to-face contact with your suppliers?)*

• How well do you keep in touch with your buyers in the UK? *(How important is face-to-face contact with your customers?)*

**Human & Social Factors**

• What helps you to motivate any work produced from home? *(What factors help to motivate you, seeing as you are not under constant supervision in the office?)*

• How do you compare working at home compared to traditionally working in an office?

• What do you perceive to be the advantages of working from home? *(Why do you prefer to work virtually than conventionally in an office?)*

• Do you ever contact other representatives? *(for help & advice or clarification of procedure etc)*
Appendix I – Results of the Interviews

Relationships & Contacts

Both textiles representatives meet their managers once every two weeks and have regular contact via telephone and email with them. Also all representatives are required to meet with their managers every two weeks (although this is only a rough timescale as sometime textiles representatives are travelling overseas to meet suppliers).

Mr G Newton explained that “working virtually over the internet is advantageous as it creates a tremendous cut in the costs for the Four Winds. Expenses can always mount up so easily as you have to take into account the price of travel, accommodation, food and paying for communication (such as mobile phones)”.

Mr G Newton continued to explain that “our relationships with clients and consumers must always be based on face-to-face contact. We like giving our contacts the assurance that if things do go wrong that we are contactable in person and are not hidden behind a façade of PCs and Internet connections. This is why we send our representatives out to meet suppliers every so often to sample the textiles and to bond with our consumers and suppliers. Trust is essential to everything that we do, I fear that we would not be able to survive and go about our business without it”

Communication Mediums

Emails and telephone calls; whether conducted virtually or via mobile phones are the two primary channels of communication within Four Winds. Both textiles representatives were trained in how to use software that integrated not only the capabilities of emails but of schedules and small databases of contact details.

Mr. G Newton remarked that “all employees need to have the knowledge and skills of how to use such software effectively. Employees are also rated highly upon their telecommunications skills, as it is essential that our employees are clear in what they say and that whatever documents are sent to our contacts are understandable and will not create any kind of mix up. It has been known to happen before”
Mr. G Newton also remarked that “the price of communication is always essential; we try to keep everything at a minimal cost where possible. This is why we have embraced using voice-over-IP software as it is reliable, cheap and effective”.

In contrast to this, Mr J Mace replied that “sometimes the voice-over-IP software will play up, and sometimes I have to depend on using my mobile phone to contact people!”

**Human & Social Factors**

As both Mr J Mace and Mr. B Newton work from home, they had different ideals to the social and human issues relating their work than the senior manager, Mr G Newton, who works in the office located in Risley, Nottingham. Both textiles representatives definitely preferred working from home to a conventional office, whereas Mr. G Newton insisted that working in the office would suit him rather than working from home.

Mr. G Newton remarked that “my office within Four Winds is an essential stronghold to the company. Textiles representatives and our contacts know that if there is an immediate problem or emergency that they can find me in my office. It seems almost unprofessional for someone in my position to try and work from home, but having such a small office space is one of the perks. It really doesn’t cost much to keep and maintain and if things were to inevitably go wrong (and touch wood they never will), it is a lot easier to ‘get out’.

Mr. J Mace and Mr. B Newton remarked that “it is crucial that we have a separate space for work help settle the divide between working life and home life. Without it we would probably not get that much work done”.

Mr. B Newton remarked that “the best part about it is not having to wear a suit whilst working at home. It’s such an advantage to feel comfortable whilst working and I still wear suits to meet our buyers and suppliers. I suppose it promotes a sense of professionalism when and where required”

**Culture & Community**

Mr. G Newton commented that “we strive as a company to make sure that all of our employees are aware of the organizations goals and objectives. It is of paramount concern to us that all of our employees from textiles representatives down to factory workers are familiar to each other and our social events throughout the year such as office parties and formal meetings help. In the event that
management is for any reason out of contact then the employees need to know that they can rely on each other in times of need or when quick, on demand decision making is required”.

Mr. J Mace and Mr. B Newton both agree that having such meetings is “a great opportunity for discussing work, how to go about doing work and also a chance to socialize and familiarize themselves with other employees throughout the entire company”.

On top of the above comment, Mr. B Newton remarked that “you never know what you can learn from other employees!”

**Nature of Work**

Mr. G Newton remarked that his work was “great importance to the company. Without having someone in my position behind the scenes to ensure the smooth running of all textiles going into and out of the warehouses, that we would not be able to function properly. I also act as a senior point of call for any formal complaints that may arise when dealing with certain customers”.

Mr. J Mace and Mr. B Newton both commented that “work is a lot more difficult to try and conduct whilst away from our usual office. Although the great part about it is that I am able t check my emails almost anywhere in the world at any time. Sometimes it is very hard to judge the different time zones especially whilst working abroad or overseas”.

When it comes to travelling abroad Mr. J Mace and Mr. B Newton both enjoy their trips to meet the suppliers; “Even though it is sometimes very hard to overcome the language barriers, our suppliers are brilliant hosts and always seem to go the extra mile to make sure that we have a pleasant experience. It’s all part of the working relationship and helps to build a good bond”.

Alongside this comment, Mr. J Mace explained that “It is always very interesting to see how different cultures work and compare them to how we work. I don’t think I would be in any way suited to doing their job. It looks to difficult and isn’t my cup of tea”.

Mr. G Newton explained that the assessment of work is “usually based on client feedback as we do not employ any formal methods to check that employees are working. I believe that they will be working as stated in their contractual agreement. If no communication can be made with an employee then I start to worry, but I can always trust that my employees will be working productively without my constant supervision”.
Appendix J – A framework of CSFs for a VO

Each of the three entities highlighted here (Employees, Organization and Manager) each have their own list of CSFs that must be adhered to in order for the success of a VO.
Appendix K – Results of Evaluation: Using a Focus Group

Flipchart Page 1

3 AREAS of a VO

- All have their own lists of CSFs

Points that must be adhered to in order for success to be achieved

Critical Success Factors

SUMMARY → Research

- Observation in the Field
  - Literature Studied

- Semi-Structured Interviews
  - Literature Studied

Hypothesis of CSF’s & Areas/factors relating → Managerial
  - Human
  - Social

3 Areas located → * ORGANIZATION
* MANAGERS
* EMPLOYEES
Area 1: Organization

CSFs

- Strong sense of community/culture
  - Helps to ensure LOYALTY
- Important: Travel expenses compensated for employees
- Reward structure & job prospects for teleworkers & travelling employees
- Ensure employees have necessary skills & knowledge for working in a Vd
- Need to be very strict with deadlines
- Minimum trial period of around 3 months for someone working away from the office
- Multiple communication channels must be established: email, mobile phone, voice-over-ip
- Maintain healthy business partnerships with suppliers & buyers
- Travel overseas to meet with suppliers
- Socializing helps ensure TRUST

Include many buyers to come & sample goods before purchasing
- Face-to-face contact helps to ensure TRUST

*: TRUST is essential
Area 2 → MANAGERS

* Maintain face-to-face contact with Employees
  - regular reviews of progress - i.e. every 2 months or every quarter year
  - healthy relationship - give feedback when & where appropriate

* TRUST
  - * Employees will be contactable between working day hours
  - * Employees will get work completed on time - in right format
  - * Employees will keep company materials, resources & information
  - * Employees must be loyal - i.e. not work for anyone else
  - * Must keep a space cleared for work. Room, preferred. Although desk is acceptable

* MEDIATED AVAILABILITY = BASED ON TRUST
  - * MANAGERS need to keep employees focused -
    - change ‘job’ structures away from
      - specialized roles
    - roles that can adjust to many different tasks
  - * Set the standard for employees - be role models
    - leaders
  - * Must themselves be very approachable & available
    - even more so than employees

* Even though physically distant
  - must be respected as a higher level of authority - face-to-face meetings help to achieve this
Employees

- Must be self motivated to work away from office
  - Usually a case of "no work, no play"
- Must be skilled with telecommunications software
  & technologies ⇒ essential pre-requisite for working in a Vo
  either teach (training) or choose candidate with this familiar
  skill/knowledge
- Must give a sense of professionalism when travelling
  to meet internal or external contacts
- Make sure employees are aware of organizational
  goals & beliefs
- Must be rational thinkers - decision making when other
  contacts per advice are unavailable
- Must make sure all work is backed up & paper copies
  are stored for version 4.2
- Must ensure clarity in communication
  - Non-verbal cues non-existent
  in textual communication
- Contactable even when travelling
  - Mobile phone = company
FRAMEWORK

3 linked Entities:
- Managers
- Employees
- Organization

All equal with their own CSFs

Use a TRIANGULAR scheme based strongly on TRUST

How are they linked?
- Manager → Organization: Loyalty
- Organization → Employees: Contractual Agreement
- Managers ← Employees: Mediated Availability - i.e. 9-5
  * face to face - regular/scheduled

Next → External Factors
- Value chain entities?
- Telecommunications Technologies?
FRAMEWORK 2

VALUE CHAIN
ENTITIES

LAYERS
OF
SUPPLIERS

Value
added
process

Materials/Resources

ORGANIZATION

Contractual
Agreement
of
Virtual
Work

Contractual
Agreement
of
Work

TRUST

MANAGERS

< MEDIATED AVAILABILITY

EMPLOYEES

< REGULAR/SCHEDULED FACE-TO-FACE

contact

Everything on the corners of the Δ have CSFs

- Value Chain entities do not

→ (come under “organization”)

The distance between the entities important

→ The further away they get → the greater the

Amount of TRUST required to succeed!

Cie the bigger the Δ