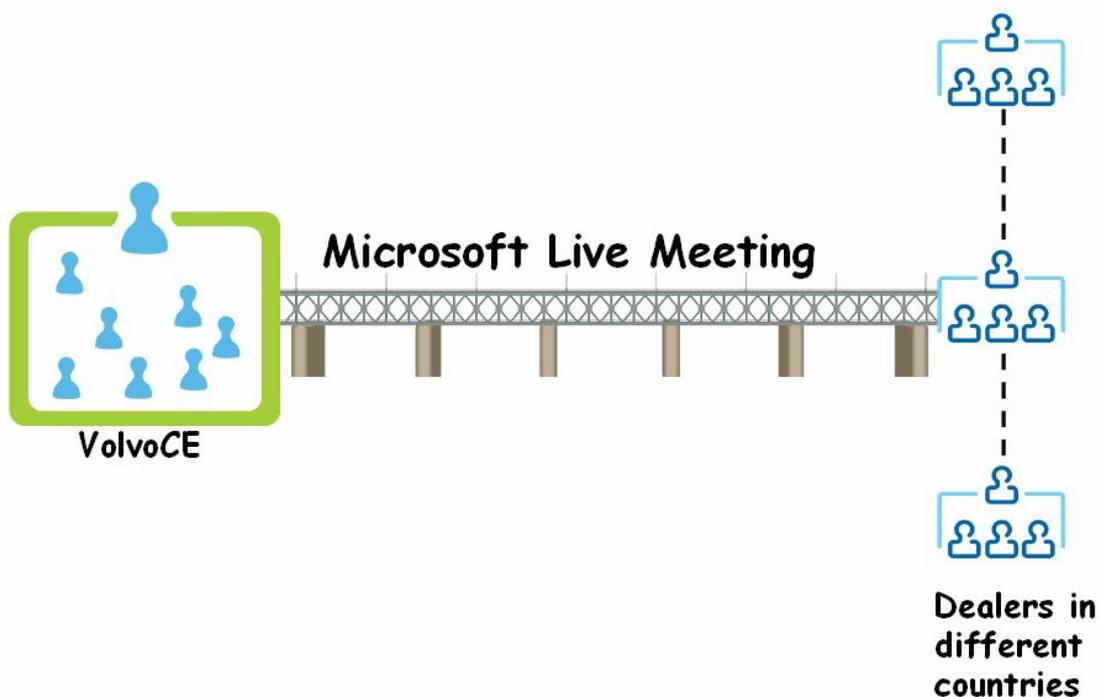# Dance with your business partners

**[An empirical study about what factors influence the adoption of the IT applications between the company and its global dealers from different countries, and among them which factor/factors are more important than others.]**

# Table of content

# Abstract

**Date**: June 2010

**Course**: EIK 034 Master thesis

**Author**: Xiaokun Yang

**Tutor**: Ole Liljefors

**Title**: Dance with your business partners


**Introduction**: Through the web conference project of Volvo Construction Equipment (VolvoCE, [www.volvoce.com](www.volvoce.com)), the author analyzed what factors influence the adoption of IT applications between the global company and its dealers in different countries, and among these factors which ones are more important than others.


**Research question**: What factors influence the adoption of the IT applications between the company and its global dealers from different countries? Among them which factor/factors are more important than others?


**Methodology**: The case study method was adopted in this master thesis, which was based on the web conference project of VolvoCE, thus much empirical data about this project was collected and used. At the same time the author searched and summarized some different literatures and articles and deduced the critical literature review part. At last, both the theoretical data and empirical data were analyzed to answer the research question.


**Conclusion**: Based on the web conference project of VolvoCE, all those factors that mentioned in the analysis part should be considered when implementing the IT applications between company and its dealers or other business partners. Have a good understanding about all these factors can improve the success possibility of the IT projects between the global company and its business partners, and thus IT can works as the dancing music for both the global company and its dealers in the business world. At last among these factors the top business executives' support and IT infrastructure are more critical than others.


**Key words**: Web conference, Microsoft Live Meeting, dealer, VolvoCE, Wainhouse, IT system, Business partner, Inter organization, extended network, Internet Service Provicer (ISP).

# Acknowledgement

# 1. Introduction and objectives

As a major enabler and driver (Turner, 1998) of speeding up communication and improving information exchange, Information Technology (IT) has penetrated in almost every part of our lives and societies, IT has changed the way we think, feel and act largely in last several decades. What's more, the commercialization of the Internet has accelerated the IT utilizations in different industries. According to Porter, "Internet technology provides better opportunities for companies to establish distinctive strategic positions than did previous generations of Information Technology" (2001, p.65). Effective and efficient adoption of IT is one of the key factors that differentiate the successful companies from their less successful counterparts (Bharadwaj, 2000).

On the other hand, not like the old family manufacturer that produce everything themselves, more and more companies realized the critical importance of the tight cooperation with the business partners such as suppliers, dealers, resellers and distributors. In the last few years the world witnessed the restructuring of the industries and companies pursue the new business model to compete in the fierce global market. The cooperation emerged with several different names, extended enterprise network (Krishnan et al, 2007; Saraf et al, 2007), interorganizational business relationships (Bala & Venkatesh, 2007; Pavlou, 2002; Madlberger, 2009), and so on. But the essence is same because they have the potential to significantly enhance competitive advantage by having a dramatic impact not only on operational excellence and efficiency, but also customer relationships, product service offerings, and revenue growth (Krishnan et al, 2007). The word dealer network will be used in this thesis.

IT played a critical role on the cooperation of organization and its business partners during recent years. Integrating and automating collaborative business processes through IT have been suggested as a solution to improve the enterprise relationships between company and its partners (Bala & Venkatesh, 2007). Except the greatly improved cost saving and communication efficiency, the IT applications between company and its business partners can eliminate the manual information transfer and contribute greatly to the closer relationships and tighter coordination between them (Madlberger, 2009). More and more companies build their business strategy on the adoption of IT and the cooperation with their partners. Successful examples include Li & Fung and DELL, which created an extended enterprise network on which they depend for their core business value creation and thus gained the great competitiveness in the fierce market (Applegate et al, 2007).

But using IT to connect with different business partners such as dealers is not an easy task, because there are many technical and non-technical factors should be considered during the adoption process. The approach of this master thesis is to describe and analyze the factors related to the adoption through an empirical case of the web conference project between VolvoCE and some of its dealers (more than 30 dealers) from different countries. All the factors that mentioned in this thesis were based on this project. However, the conclusion is not comprehensive enough since there are some limitations and thus there are some other factors that did not mentioned in the final part.

To make this thesis more understandable to the readers, the Figure 1.1 illustrated the cooperation structure between VolvoCE and its dealers. Since all the products of the VolvoCE are sold via the dealers to the end customers in different countries, there are much daily communications between VolvoCE and its dealers.
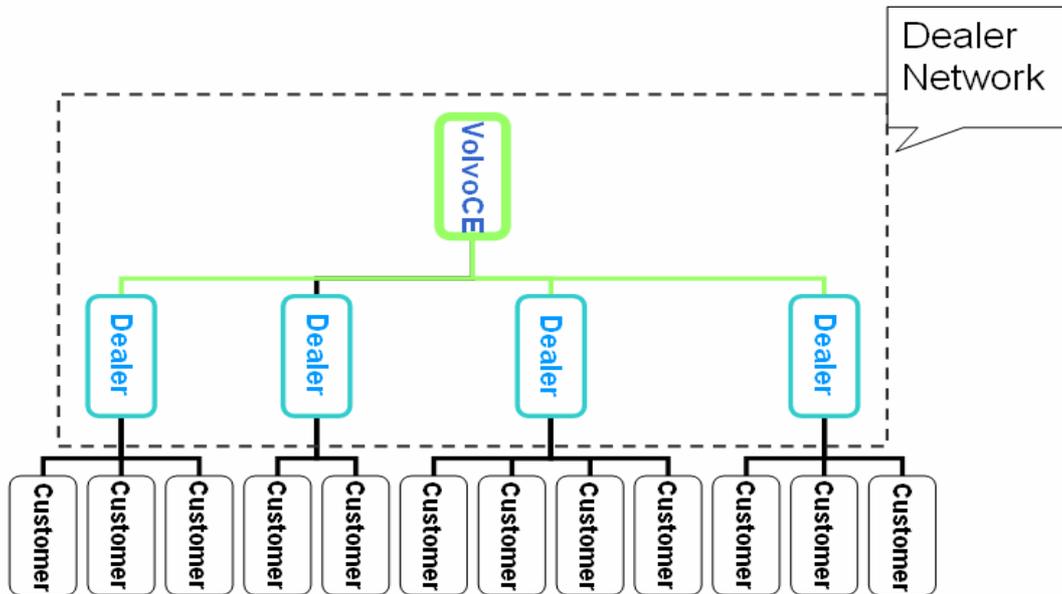


Figure 1.1: The dealer network (source: author)

## 1.1. About VolvoCE

As a member of Volvo Group (www.volvo.com), VolvoCE (www.volvoce.com) is the oldest company in the construction equipment industry, and now still one of the most competitive leaders in this field (history, 2010). In 2008 VolvoCE has the second biggest market share in the world (about volvoCE, 2010).



Figure 1.2: Volvo Group (source: Group presentation, 2010)

VolvoCE's position in the Volvo Group is shown in Figure 1.2. As a main player in the construction equipment industry, today's VolvoCE has more than 16,000 employees all over the world with its headquarters based in Brussels, Belgium. Its products and services were offered in more than 150 countries through proprietary or independent dealerships (about volvoCE, 2010). All dealers' information can be found in VolvoCE's website.

All members of Volvo Group are shown in Figure 1.2. Among them Volvo IT (www.volvoIT.com) as an independent company in charge of the whole group's IT service and support (Group presentation, 2010). VolvoIT provided comprehensive technical support and consultant during the period of the web conference project.

## 1.2. The background of VolvoCE's Web conference project

2009 is a critical year to VolvoCE because the construction equipment market was influenced greatly by the financial crisis, as a result its Net Sales was dropped greatly compared with the financial year 2008 and 2007 (Group presentation, 2010).The giant company realized the problem and now is trying to find a new way to adjust itself to fit with the business environment, and only thus can it survive and prosper in the fierce market. Since the products and services are offered through the proprietary or independent dealers in different countries, VolvoCE realized that they should work more synchronously with them and web conferencing system can provided such a suitable platform. With its help the communication especially the training and sales & marketing related will becomes more efficient and economically than ever.

The second background is that the Microsoft Live Meeting system as a powerful communication tool was already used successfully inside Volvo Group for more than one year. According to the IT director of VolvoCE, not only the costs of business travel and international telephone were saved greatly, but also the communication efficiency between different offices was improved significantly. Both the high level managers and the users realized its value for the business and, with the employees became more and more familiar with this IT application, some of them that work tightly with the dealers put forward the suggestion that why not use the same technology to communicate with the dealers.

## 1.3. What is Web conference system

Web conferencing is a communication tool for business and other organizations. According to David et al (2004), Web conferencing can be described as the using of the Internet as a medium for conducting a virtual conference or meeting (2004, p.7). Its main benefits include saving travel costs, increasing productivity, improve the work together efficiency, removing distance as a barrier for getting the right people and customers involved, and so on (Benefits of Web conference, 2009). Microsoft's Live Meeting is one of the main players in the web conference industry (Top 12 vendors, 2008). Other players include Polycom, NTT, V2, and so on (Web conference product, 2010).

## 1.4. Research question

The objective of this master thesis is trying to answer the following questions:

- *What factors influence the adoption of the IT applications between the company and its global dealers from different countries?*

- *Among them which factor/ factors are more important than others?*

## 1.5. Target readers

The target readers are the academic students that focus on the study of IT related management and business. They can gain the related knowledge about what factors influence or contribute to the adoption of IT applications between the company and its dealers, or other business partners, and what should be considered when building the related applications. Of course they can make a further research upon this thesis for their interest or study if possible.

## 1.6. Limitations

The main limitation of this research is that the primary data is only from one project, so the potential risk is that the data and the conclusion could not be comprehensive enough. As Fisher had mentioned that "the case studies inevitable lack the representativeness, it can not be claimed that what happened in one case is typical of all cases" (2007, p.60). To prevent this situation the author searched and compared many other related articles as a complement.

Another limitation is, since the Microsoft Live Meeting was already adopted by VolveCE, and hence the author did not mention how it was selected for this project. That means this thesis did not include the comparison of different vendors product in the web conferencing industry. But select a suitable product from the different vendors is a critical prerequisite for the IT projects.

At last, even though the ambition of this thesis want to cover more aspects about how IT enable the business of company and business partners in strategies and operations, but since the limitation of time the thesis must be narrowed down to the current one, the factors that influence the adoption of IT applications between the company and its dealers. Once again, the other students can make a further study upon it.

# 2. Critical literature review

Rogers (2003) mentioned five different factors that can influence the adoption rate of the new products or services. They are relative advantage, compatibility, complexity, trialability, and observability.

1. "Relative advantage is the degree to which an innovation is perceived as better than the idea it supersedes. The relative advantage of an innovation, as perceived by members of a social system, is positively related to its rate of adoption."

2. "Compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and the needs of potential adopters. The compatibility of an innovation, as perceived by the members of the social system, is positively related to its rate of adoption."

3. "Complexity is the degree to which an innovation is perceived as relatively difficult to understand and to use. The complexity of an innovation, as perceived by members of a social system, is negatively related to its rate of adoption."

4. "Trialability is the degree to which an innovation may be experimented with on a limited basis. The trialability of an innovation, as perceived by members of a social system, is positively related to its rate of adoption."

5. "Observability is the degree to which the results of an innovation are visible to others. The observability of an innovation, as perceived by members of a social system, is positively related to its rate of adoption."

But except these five factors, definitely there are many other factors that can also influence the adoption of new products or services, especially the adoption of the IT innovative products/services. In the following parts the author listed some other factors which mentioned by different authors.

## 2.1. The relationship with business partners

The adoption of the IT applications between business and its partners requires their coordination, so the relationship between them becomes critical (Chwelos et al, 2001). The solid cooperation relationship between a company and its business partners is the prerequisite for the building of the IT applications between them. Without the cooperation relationship, there are no needs for the IT applications among them.

According to Iskandar et al (2001), the IT applications can improve the buyer-supplier coordination through improving the flow of information. Saraf et al (2007) emphasized that increasingly, the different IT applications are used to enable the collaborative relationship between company and its business partners, especially the knowledge based process linkage and thus the value creations of them.

According to Iskandar et al (2001), the longer the cooperation relationship between a company and its business partners, the more likely they will adopt the IT applications to connect with each other. And the more frequently the business transaction between them, the more likely they will adopt the IT applications to connect and communicate each other.

Madlberger (2009) verified that the highly interdependent relationship between the business partners will positively impact the building of the strategy related IT applications between them. Hadaya & Pellerin (2008) emphasized that the level of the company's collaboration with its business partners will positively contribute to the building of the IT applications among them.

## 2.2. Financial readiness

Financial readiness refers to organization's capital available for the IT investments. The company's financial readiness affects its ability to adopt the IT applications (Chwelos et al, 2001). Organization's financial readiness has a significant positive relationship with both the adoption intent and the level of expected integration of the IT applications (Sharma et al, 2007).

Adequate financial resources as one of the organization's readiness determinant will increases the success possibility of the IT applications greatly (Hadaya & Pellerin, 2008).

## 2.3. The IT capability

Bharadwaj (2000) defined the IT capability as a firm's ability to combine its IT resources (such as IT infrastructure, human IT skills, and so on) to achieve the business objectives or gain the business opportunities. Viewed from resource based perspective, the IT capability is a resource that can not be easily imitated or substituted. Saraf et al (2007) narrowed down the IT capabilities to the IT integration and IT flexibilities.

Saraf et al (2007) defined the definition of the IT integration as the aggregate result of a combination of technical approaches, including not only just the technical compatibility of IT applications but also the IT skills that render a higher degree of the IT integration at the functional level. The IT integration positively contributes to the IT applications between company and its business partners.

The IT integration related to the compatibility as had mentioned above. Rogers defined the compatibility as "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters. The compatibility of an innovation, as perceived by members of a social system, is positively related to its rate of adoption" (2003, p.266).

IT flexibility refers to ability of the IT applications to both incremental and revolutionary changes in the business or business process with minimal penalty to current time, effort, cost, performance, and so on. IT flexibility positively affects the IT applications between the company and its business partners (Saraf et al, 2007).

## 2.4. The IT infrastructure

A firm's IT infrastructure has been described as a major business resource and a key resource for attaining the long term competitive advantages (McKenney, 1995). The IT infrastructure enable firms to implement the right IT applications at the right time, share information across departments and locations (Bharadwaj, 2000). The internal technical readiness will positively contribute to the IT applications' adoption between the business partners (Madlberger, 2009).

Applegate et al (2007) emphasized that the IT infrastructure includes two key components, IT operations (include Internet, network, data center, and so on) and supporting enterprise processes (include procurement, HR resources, and so on). The IT infrastructure provided a foundation for other value-creating and value-sustaining IT applications. The value-creating means drive profitable growth through further cost reductions and revenue generation to the company. The value-sustaining means provide the strategic differentiation and proprietary advantage to the company. The IT value framework from Applegate et al (2007) can illustrates the contribution of the IT infrastructure clearly.
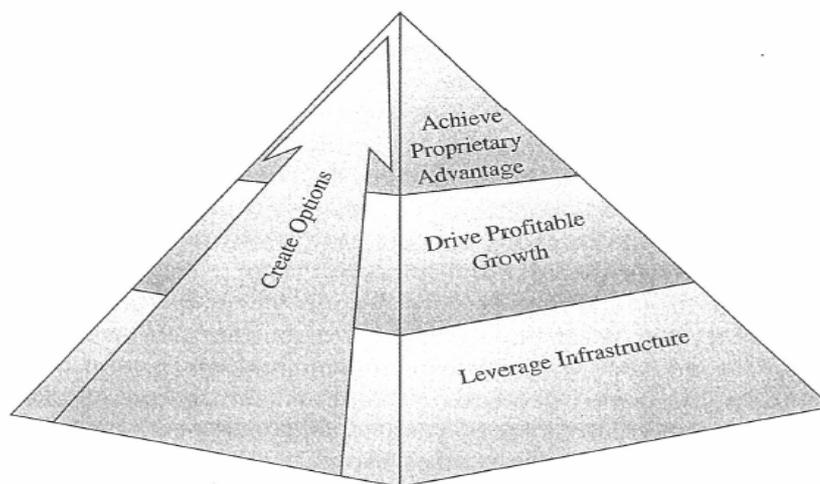


Figure 2.1: IT infrastructures (source: Applegate et al, 2007)

## 2.5. The power of the stakeholder

In the context of social exchange theory, different literatures had revealed the importance of the relative power between business partners. The power of the stakeholder here means the importance of it to its business partners and the dependency of its business partners on it. According to Hadaya & Pellerin (2008), dependency can be defined as the company's need to maintain an exchange relationship with another company to fulfill some objectives. They mentioned that the company's dependency and vertical coordination with its business partners will positively linked to the adoption of the IT applications.

According to Madlberger (2009), once the powerful players adopted the IT related systems earlier and benefit from them, they tend to impose them on their trading partners. The company's relative power will positively impact the strategic and operational information sharing IT applications with its business partners. Porter (1980) mentioned the power of supplier at his famous five force model. The suppliers can increase the prices and possibly reduce the quality of the products or services, and thus imposing a threat to the industry players. Several factors can make the suppliers powerful, for example, when the suppliers are few and more concentrated, when there are no relevant substitutes can be adopted, when the supplied products are important to the buyers' business, and so on.

## 2.6. The roles of the users

User plays an important role in the IT systems development. According to Keil et al (2002), if the users are not involved from the beginning, then the project will risks being all for naught. The lack of user involvement was ranked by the US project managers as a risk factor of the IT project. On the other side, the value of IT was reflected through the users' satisfaction and the IT systems' contribution to the business (Ginzberg, 1979; Melone, 1990; Wixom & Todd, 2005).

Kappelman & Mclean (1992, p.1) mentioned that when the participation of the business users was coupled with their business-need-based attitudes, the success possibility of IT projects were higher. Their conclusion was that the user participation has a positive and significant association with the success of the IT projects.

Applegate et al (2007) also listed several users' responsibilities during the IT systems development. For example, the user should ensure comprehensive input for the IT projects that support vital aspects of the unit's operations; Participate in developing and maintaining IT plans that set new technology priorities schedule the transfer of IT among groups, and evaluate projects in lights of the company's overall strategy.

## 2.7. The roles of the business executives

The business executives' support was identified by many researchers as one of the key success factors for IT systems. Jiang et al (1996 cited in Nah et al 2003) ranked business executives support as the third most important among 13 factors that contribute to the general IT systems success. Teo & Ang (1999) listed the business executive's commitment to the strategic use of IT as the first critical success factors that related to the alignment of IS plans with business plans.

Business executives' support can contribute to the IT applications in several different ways. "Business executives can allocate appropriate and adequate resources for the development of strategic IT applications, these resources are often necessary to ensure minimal delays and bureaucratic bottlenecks" (Teo & Ang, 1999, p.178). Business executives can facilitate the transfer of technology from one unit (organization) to another unit (Applegate et al, 2007, p.432). Top managers play an immensely important role in stimulating a supportive environment to the implementation of IT systems (Hedman & Kalling, 2002, p.249).

## 2.8. The roles of the IT executives

Weiss & Jr (2004) stated that in order to meet the performance objectives and business requirements, IT executives should understand their organization's strategies and business plans, communicate with the business users frequently, and participate and contribute to business planning meetings of different levels in the organizations.

Ross & Feeny (1999) presented the evolution of the IT executives' role in the organizations, which was showed in Figure 2.2. In the first stage, the IT executives act as the "functional head" to deliver the promise, for example developing new systems for the time and budget, achieving the ROI when the IT investment was approved, improve the work efficiency through the IT applications, and so on. In the second

stage the IT executives act as the strategic partner to align IT with the business strategies. In the third stage, they act as a business visionary through recognizing the emerging IT applications and evaluate new business strategies through them.

To ensure the IT investments have the greatest impact, IT executives should involve the business vision. Mark & Monnoyer (2004) mentioned that one of the next generations IT executives' job is to study together with the business executives about how the new technology can help a company to become more productive and competitive in the market.
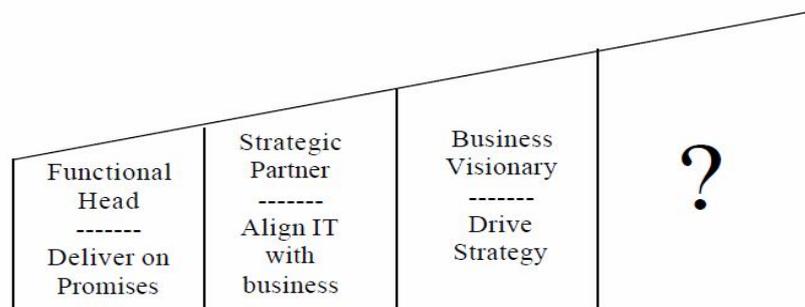


Figure 2.2: The IT executives' roles (source: Ross & Feeny, 1999)

## 2.9. The roles of the IT staff

Teo & Ang (1999) listed several critical contributions that the IT staff can make to the business. At first, the efficiency and reliability of services provided by the IT staff will play an important role in determining users' perception of the IT systems. Secondly through keeping up with the advances in IT, the IT staff will be better able to suggest appropriate applications to support business objectives and strategies. At last, since the IT is no longer just used to automate the operations, but are increasingly used to reengineer business process and contribute to the business's strategy, so it is vital that the IT staff be responsible to the users' needs and thus, they can ensure that the IT applications can serve the business needs.

Turner (1998) stated that the IT staff possess the problem-solving skills and have the experience for the troubleshooting and implementation of the IT projects. They play an important role in the IT applications' using in the companies.

## 2.10. Culture differences

Cornwall & Perlman (1990 cited in Burns, 2008, p.111) define the culture as "an organization's basic beliefs and assumptions about what the company is about, how its members behave, and how it defines itself in relation to its external environment". Hofstede (1980, cited in Burns, 2008, p.111) defines it as the "collective programming of the mind which distinguishes one group of people from another".

According to Kappos & Rivard (2008), the culture influences the development process of the IT adoption and implementation, and how the IT applications were used in a company. Fully understand the role of different culture under different business context will help resolve the conflicts result from mismatch, misinterpretation, and misunderstanding.

Acknowledging the influence of culture will facilitate the cross-culture collaboration and coordination, which could be critical in the implementation of new IT technology in different countries. By examining how different culture related to the technology adoption, we can gain better understanding about how to leverage cultural factors to maximizing the level of technology adoption and use while reducing the level of resistance (Venkatesh & Zhang, 2010).

Kappos & Rivard (2008) summarized five findings about the culture and IT applications:

(1) culture influences the development process of IT;
(2) culture moderates the relationship between the development process and the characteristics of the IT;
(3) culture moderates the relationship between the characteristics of the IT and its acceptance and resistance;
(4) culture moderates the relationship between the characteristics of the IT and use process;
(5) IT influences culture.


## 2.11. The isomorphic pressure

Organizations are subject to pressures to be isomorphic with their environment (Burt, 1987). DiMaggio & Powell (1983) mentioned three different isomorphic pressures: mimetic, coercive, and normative.

"Greater mimetic pressure will lead to greater intent to adopt the IT related applications between business partners on the extended enterprise network. And greater perceived success of one partner from the IT applications will lead greater intent to other partners" (Teo et al, 2003). Mimetic pressures would be positively and significantly related to the IT adoption and expected level of integration (Sharma et al, 2007).

"The organizations will imitate the actions of other structurally equivalent organizations because those organizations occupy a similar economic network position in the same industry and thus, share the similar goals, produce similar commodities, share similar customers or suppliers, and experience similar constraints" (Burt, 1987).

Mimetic pressures result from organizations response to uncertainty and can cause an organization to change over time to become more like other organizations in its environment (DiMaggio & Powell, 1983).

Coercive pressures are defined as formal or informal pressures exerted on organizations by other organizations upon which they are dependent (DiMaggio and Powell 1983). Teo et al (2003, p.23) suggested that "the coercive pressure on organizations may stem from a variety of sources including resource-dominant organizations, regulatory bodies, and parent corporations, and are built into exchange relationship". Dominant organizations in the extended enterprise network can impose the pressure to the dependent organizations to adopt programs, policies, technologies, and so on (Sharma et al, 2007).

Normative pressures occur in relational channels among network members when norms are shared during consensus building thus potentially increasing the norm's influence (DiMaggio & Powell, 1983). Normative pressures from sharing of knowledge and best practices between business partners through the existence of favorable transactional climate would be positive and significant to the adoption of the IT applications on the extended enterprise network (Sharma et al, 2007).

# 3. Conceptual framework

The critical literature review concerns 16 different factors that can influence and contribute to the adoption of the innovative products between a global company and its dealers. Figure 3.1 summarizes them together and illustrates clearly about their relationship with the adoption of IT applications between the global company and its dealers.
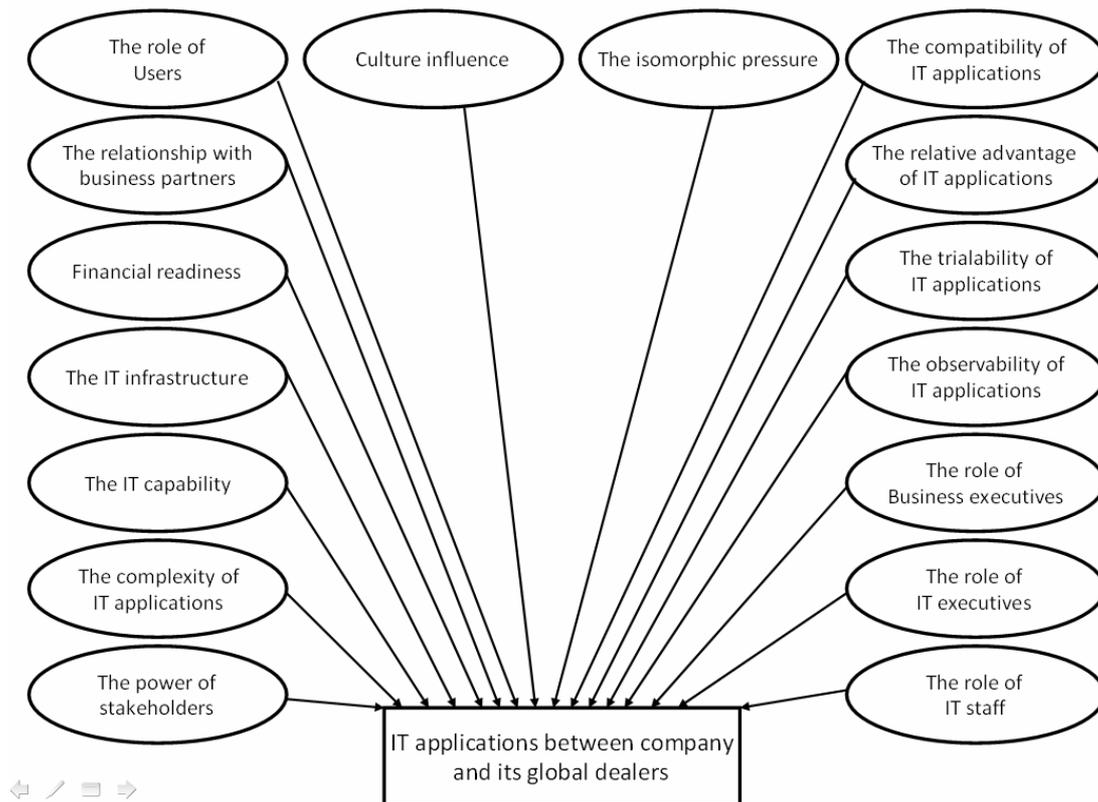


Figure 3.1: The factors that influence the IT adoption between company and dealers

According to the critical literature, all these factors can influence the adoption of IT applications between the global company and its global dealers. In the analysis part the author will use the empirical data to illustrate how many of these factors can influence the adoption of the Microsoft Live Meeting between VolvoCE and its dealers, and which one/ones are more important than others.

# 4. Research methodology

A case study approach was used in this thesis. According to Yin (1994), case studies are rich, empirical descriptions of particular instances of a phenomenon that are typically based on a variety of data sources. "Case study enables you to give a holistic account of the subject of your research. In particular, they help the researcher to focus on the interrelationships between all the factors, such as people, groups, politics and technology that make up the case studies" (Fisher, 2007, p.59). This chapter concerns how the topic was selected and defined, how the data was collected, and at last, how these data was analyzed to answer the research questions.

## 4.1. The topic selection

An interesting topic is a critical prerequisite for the thesis. According to Fisher (2007), there are several different factors that should be considered when selecting the topic of the master thesis, and some of them are used in this thesis.

### 4.1.1. Interest and Relevance

Select an interesting topic is critical for the author to sustaining the motivation and passion throughout the whole process. The author's object was write a thesis that related to the study in university and at the same time can provide a useful reference to the IT project in the modern business organizations. On the other hand, the author has several years' working experience in IT industry, and it also contributed greatly to both the project and the thesis. At last, the most important is that VolvoCE provided such a valuable opportunity for the author to apply his study and experience to the actual project.

### 4.1.2. Durability

With several decades' development, IT has played a critical role in today's business environment. Nowadays the IT applications inside the organizations are very popular and there are so many different references and articles about how to implement the IT systems in an organization that can be used.

On the other hand, as had mentioned above, to fit the fierce global market most companies cooperate tightly with their business partners such as suppliers and dealers. Definitely the IT can act as a strategic tool for their cooperation. This thesis tried to find these related factors and even though there are some limitations for the project and the thesis, but the topic will be durable for a longer time since the further survey can be based on this thesis in the future.

### 4.1.3. Breadth of the research question

Since the limitations of time, the research question was narrowed down to the current one. But these factors are universal and can be used for other IT projects between the company and its different business partners such as supplier, distributor, or even customers. At the same time, the factors include some technical and non-technical ones for example the culture and financial factors, which means these factors are comprehensive enough for the thesis.

### 4.1.4. Data Resources

Several different resources were used in this thesis. At first, the literatures and articles from the author's study provided some theories and instructions for both the project and the thesis. Secondly, there are much primary data from the interviews and questionnaires with the employees of VolvoCE and its dealers. These primary data are critical to this thesis because all the factors are evaluated from it.

At last, a large amount of empirical data emerged during the process of the project's tests and implementations. This empirical data contributed greatly to the analysis and conclusion parts of the thesis.

## 4.2. Primary data collection

The author worked as a project engineer in VolvoCE for this Live Meeting project from February 2010 to June 2010. During these four months work a large amount of empirical data was collected. The data was divided to different parts, which came from interview, questionnaire, and test and implementation periods.

Since the author know little about VolvoCE at the beginning, so the job was started by the interview with about five employees of VolvoCE to learn some fundamental information about VolvoCE and its dealers. Then the author sent recommendation and questionnaire to dealers to learn the information about dealers. At last, the project entered the test and implementation period, a large amount of data was collected during this period.

### 4.2.1. Interviews

About five semi-structured interviews were carried on during the beginning period of the project. According to Fisher (2007), the semi-structured interview has a schedule to remind the interviewer of the main issues and topics that need to be covered by the respondents. At the same time the respondent has much latitude to respond to the questions in the ways that seen sensible to them.

The aim of the interviews was to collect the information about the company (VolvoCE), learn the background of the project, know who the end users are, what are their expectations, and so on. The interviewees are from the IT department, marketing department, and training department.

### 4.2.2. Questionnaires

Two Questionnaires were used for the project and the thesis, one was pre-coded and another was an open one. They were used mainly during the beginning period through the Emails. The respondents are belonging to two different categories, the pre-coded one was sent to the business executives of dealers, and the open one was sent to the employees of VolvoCE. Their Email addresses were obtained from the coordinators of VolvoCE.

Fisher (2007) mentioned that the pre-coded questionnaires have a lots of tick boxes for respondents to fill in, whereas the open questionnaires have a few open questions and lots of white space for the people to make their responses in their own words. Both of these two kind questionnaires were used in this thesis.

The first questionnaire was an open one, which was designed and sent to about 10 business users from VolvoCE. Most of them were come from the departments of sales & marketing, training, customer support and so on. They provided many valuable suggestions and ideas for the web conference project. The first questionnaire can be found in Appendix I.

Another questionnaire, which was a pre-coded one, was designed and sent to the business executives from 32 dealers such as CEO and general manager. One object was to introduce to them about what is web conference system, how can it improve the cooperation efficiency between their company and VolvoCE and thus gain their support for it. The second object was to ask them some fundamental information about their company, such as how many branches in their company, which departments communicate frequently with VolvoCE, and so on.

As a result the questionnaire II consists of two parts. The first part was an introduction about this web conference project, what benefits can it benefits to the business of VolvoCE and the dealers. The second part was some fundamental questions about their companies.

### 4.2.3. Test and Implementation period of the project

Most of the factors that mentioned in the critical literature review part were generated in this period. For every dealer, the Live Meeting was tested twice. If every time the test was succeed with good quality, the test was closed which means it can be used for the business communications. If there are some problems during test and could not be solved, that dealer was marked as a failed one.

During the test and implementation periods, a large amount number of different primary data was emerged and collected. For example, there are different working cultures between the dealer from Australia and Africa, the IT infrastructure of different dealer such as Internet bandwidth are different, the business executives' attitude toward this project are different, and so on. All these primary data was analyzed with the help of the secondary data in the analysis part.

## 4.3. Secondary data collection

At the same time, to fulfill the research purpose a large amount of theoretical data was collected from the different secondary sources. Two kinds of source were used, at first the main secondary data came from the books such as Applegate et al (2007) and Hedman & Kalling (2002). The second source was the journal articles that related to the IT applications between business and business. For these journal articles the author tried to focus on the ones that published by the authoritative presses for example *Harvard business review*, *MIS Quarterly*, *MIT Sloan management review*.

To cover the different factors as comprehensive as possible, about more than 70 articles that related to the IT and organization were founded and among them about 45 articles were used in this thesis. The used ones can be found in the reference part and all these theoretical data were used in the analysis part. These articles have different focus such as strategy, culture, innovation diffusion, top management support, and so on. But they all related to the IT adoptions among different companies and provided an enhanced theoretical foundation for the analysis part.

The reason that the author searched and summarized these different theories was that all these factors were experienced by the author during the web conference project in VolvoCE, and these theories provided a robust foundation for the analysis of the empirical data in the analysis part.

Internet resource played an important role during the secondary data collection period. At first, to learn the details about VolvoCE, the Internet especially the company's website was used greatly, and Wainhouse (www.wainhouse.com) was used to search the information about the web conference system. Secondly, Google Scholar and Mälardalen Högskola's library such as ELIN were used greatly when searching for the theories. The key words include "IT system", "Business partner", "Inter organization", and "extended network". The searched articles were used to conduct a critical literature review for the research question.

# 5. The author's work experience in VolvoCE

From February to June of 2010, the author worked as a project engineer in VolvoCE and in charge of their web conference project. All the empirical data in the following was collected during this period and the data can be divided into three parts.

## 5.1. The data from the interviews

Before the launch of the project, the Microsoft Live Meeting was already used in Volvo Group for more than 1 year. The idea was raised by the IT managers from Volvo IT because they noticed in recent years, the communication tools on the Internet were very popular and they are very helpful to the daily jobs. The Live Meeting contributes greatly to the communication and cooperation between different offices in Volvo Group. Not only the travel cost was saved greatly, but also the work efficiency was improved largely too.

The web conference project of VolvoCE and its dealers was started from the communication between the users from sales, marketing, and training departments, and the IT director of VolvoCE. The users put forward the idea that if they can use the same tool (Microsoft Live Meeting) to communicate with the dealers, their work efficiency will improved greatly.

About five interviews were carried on during the interview period. Among them one of the business managers said:" Now if we want to make training to the dealers in Africa, we must fly to their offices. Except the cost of the airline and hotel, the time was wasted largely on the road. If we can use Live Meeting, I think we can improve our work efficiency greatly".

The IT director of VolvoCE understood the users need and investigated the possibility quickly. After the investigation, the IT director of VolvoCE believes technically if the dealers' Internet is available, the Live Meeting project with dealers can be implemented smoothly.

The relationship between VolvoCE and its dealers decided the possibility to use Live Meeting to connect each other. As had mentioned in the beginning, all VolvoCE's products and services are offered through proprietary or independent dealerships, these dealers' business were focused on the offerings of VolvoCE. So they work together tightly in the fierce market, which made it possible for them to use Live Meeting to communicate each other.

At the beginning period of the project, the author sent questionnaires (Appendix I) to several managers from different departments of VolvoCE about their needs and expectations of this project. Most of them believe that the Live Meeting will help their daily job greatly. About the requirements they said the audio and data-sharing functions are enough for them, the video function is not needed.

According to the IT consultant from VolvoIT, the Live Meeting software for dealers is free because the server is located in Volvo Group and the price was paid already, the dealers just download the client software from Microsoft's website and use it without any fee.

## 5.2. The data from the questionnaires

The second step was sent questionnaires to the Top managers of dealers, their job title were general manager or CEO, they have the authoritative power and in charge of the whole business of their companies. The questionnaires can be found in the appendix part of this thesis. Some dealers replied the questionnaires very quickly, for example the dealer from Oceania. The CEO of this dealer provided the comprehensive information about their companies and appointed an IT engineer to cooperate with the author for the project. As a result the implementation with these dealers finished quickly. But some dealers responded very slowly, or even did not reply for example some dealers from Middle East and Africa. Without these top managers' support and commitment the author can not contact with their IT department and as a result, the tests with these dealers can not be carried on and the Live Meeting can not be used with them.

To activate these dealers, the project involved VolvoCE's regional sales directors. The author sent questionnaires to the top managers of these inactive dealers again, at the same time CC to these VolvoCE's sales directors, so the sales directors can help to push the dealers to response to our questionnaires and further activities. With the help of the sales directors from VolvoCE, this time some of these inactive dealers responded quickly, they provided comprehensive information about their company and appointed an IT engineer to cooperate with us.

Some critical information about the dealers was collected by the questionnaires, for example, what is their Internet's bandwidth, who will work as an engineer to cooperate with us for the test, what departments have the needs to communicate with VolvoCE frequently because they are the potential users of Live Meeting system, and so on. These data were helpful to both the test and the implementation of the Live Meeting system.

## 5.3. The data from the tests and implementations

The dealers' IT infrastructure played an important role to the adoption of the Live Meeting. The dealer from Australia, for example, has an Internet with 10M bandwidth and a stable network system such as Firewall and Router, and their IT engineers know very much about the Live Meeting, so the test was carried on very fluently. Only one month later, we finished the test and Live Meeting can be used to the users for their daily communications.

But some dealers' Internet was not stable, for example, the dealers from Saudi Arabia. We found some problems during the test period, and with the help of the consultants from VolvoIT, we found that the problem was originated from the Internet Service Provider (ISP). After the dealer changed to another ISP, the test was finished successfully and now the Live Meeting with them runs smoothly. On the other side, the dealers from Egypt and Angola were failed to use Live Meeting with VolvoCE because their networks, especially the firewall, have some technical problems and during the test period we can not hear each other. We asked help from their network's vendors but before this thesis the problem still there.

Financial support is critical to this project. For example, as had mentioned above, the dealer from Saudi Arabia can change to another ISP quickly with their company's financial support. Another example is the dealer from Kenya, during the test period their microphone and computer could not work normally, as a result they bought some new microphones and computers and at last, the tests were finished successfully.

Microsoft Office software such as Word, Excel or PowerPoint are very popular, most of employees from different companies of the world can use them familiarly. Microsoft Live Meeting was very similar to the Office software, and that is one reason that almost all the dealers' IT engineers and even the business users can grasp the method about how to use it quickly. Another reason is that almost all the IT engineers from different dealers have a high IT capability. Most of them have the certifications from Cisco and Microsoft, and that is why they can troubleshoot many technical problems during the test.

The project was quite challengeable because the dealers are come from so many countries from Middle East, Africa, and Oceania. Even through we can use English to communicate each other, but the author still experienced some culture differences with them during the project's period. For example the dealer from Oceania has a similar work style with western countries, they reply the email very quickly and they are very punctual for the appointment. That is one of the reasons that dealer was the fastest dealer that finished the test. On the other side, some dealers from Africa and Middle East are quite different, they can answer the email one week later, or they even forgot the appointed time for test. As a result the test with them was legged behind. There are also some other culture differences for example, the weekend in Egypt is Friday and Saturday, not like Sweden and other countries, which means we can not make test on Friday, so we can only arrange the test on other weekdays; another example is during the test periods, the author felt difficult to communicate with the engineers of the dealers from Australia and South Africa, because English is their native language and they speak very fast, as a result the author must said "Sorry" or "Excuse me" again and again.

Several tests were finished during the fist month, and then the Live Meeting can be used for the daily job. But there are still many dealers did not reply the questionnaires. As had mentioned above, we involved the sales directors of VolvoCE, at the same time we told the dealers that some dealers already finished the test and begin to use it for the real job. Some dealers replied quickly this time because of the involvement of sales directors. At the same time, they are very interested in the other dealers' adoption of Live Meeting. The author introduced the benefits which the dealers gained from the Live Meeting to them and they said since other dealers can benefit from it, definitely we will use it and benefit from it too.

## 5.4. The result of the web conference project

Before this thesis was finished, among these 32 dealers, 14 of them can use Live Meeting successfully for their business communication with VolvoCE. 3 of them joined the project but can not to use it because of some technical reasons such as the Internet and Firewall. Others can not use it because of their business executives did not reply the questionnaires. Figure 5.1 showed the result clearly.
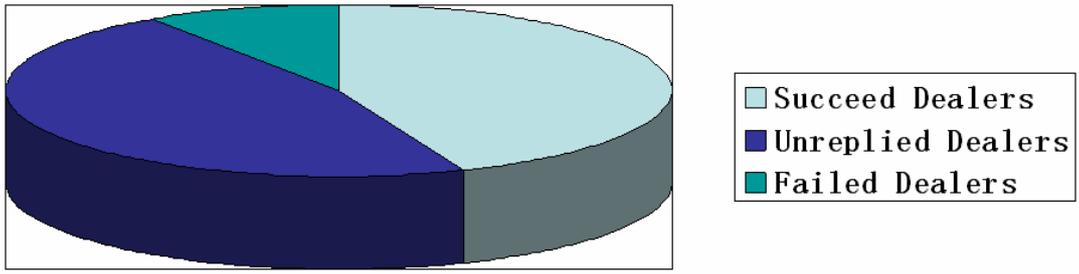
Figure 5.1: The result of VolvoCE's web conference project (source: author)

# 6. Analysis

The empirical data that collected during the author's work period in VolvoCE was introduced above. To illustrate and answer the research question, in this section the empirical data was divided into several different categories and will be analyzed to verify if and how the factors in Figure 3.1 can influenced or contributed to the adoption of Live Meeting between VolvoCE and its dealers. But since some limitations that mentioned in the introduction part, not all the factors in Figure 3.1 were experienced in this project.

## 6.1. The relationship with dealers can influence the adoption of IT applications

As the theory part 2.1 mentioned, the longer the cooperation relationship between the company and the business partners, the more likely they adopt the IT to connect each other. The partner relationship between VolvoCE and its dealers is the prerequisite for the adoption of Live Meeting between them. The introduction part mentioned that all the products and services were offered in more than 150 countries through proprietary or independent dealerships. Without the tight cooperation relationship, there are no needs for them to communicate so frequently each other, and definitely, there are no needs to implement the IT applications such as Live Meeting between them.

Many business related job can be communicated through the Live Meeting system such as product training, the users are come from different departments such as sales, marketing, finance, after-sales, and so on. Like the theory said, the more business transaction between them, the more likely they will adopt the IT applications to connect each other.

On the other side, the Live Meeting contributes greatly to the cooperative relationship between VolvoCE and its dealers. According to the users, now they can communicate each other more frequently than before because of the Live Meeting and as a result their relationship was enhanced greatly. The fact coincides with the theory that the IT applications can improve the coordination between the business partners by improving the flow of information.

## 6.2. The financial readiness can influence the adoption of the IT applications

The financial readiness is another prerequisite for the adoption of Live Meeting between them. As had mentioned, some dealers' Internet has some problems during the test, for example the dealer from Saudi Arabia, they bought another Internet from ISP quickly and as a result, the Live Meeting was implemented smoothly. If they do not have the financial support, or they do not have the money to buy another Internet, definitely the Live Meeting can not be adopted. Even through the software of Live Meeting is free to the dealers, but to run this application, they should have some related hardware such as a well equipped computer, a high quality microphone, and so on.

All the dealers provided enough financial support for the needed hardware and that made the project carried smoothly. The dealer from Kenya has some problems with their computer and microphone during the test, so they bought a new one during the test and at last, the test was quite successful. What's more, that dealer bought some new microphones and computers for the users.

These facts coincided with the theory that company's financial readiness affects its ability to adopt the IT applications. And organization's financial readiness has a significant positive relationship with both the adoption intent and the level of expected integration of the IT applications. Adequate financial resources will increases the success possibility of the IT applications greatly.

## 6.3. The IT infrastructure's role

The stable IT infrastructure such as Internet, router, and firewall provided a critical foundation for the IT applications such as Live Meeting. Without a stable IT infrastructure, the Live Meeting can not run smoothly. As had mentioned, the dealer from Saudi Arabia has an unstable Internet when we making the first test, as a result the Live Meeting can not runs properly. After they changed to a new stable Internet from another ISP the problem was solved. The dealer from Mauritius has some problems in their firewall during the test period, the Live Meeting can run but with a bad sound quality. After the IT engineers debugged the problems, the test was finished with a good result. Now both these two dealers can use the Live Meeting daily for their business communication.

On the other hand, the dealer form Egypt and Angola, because of the network and firewall reasons, the Live Meeting can not be run between them and VolvoCE. These stories showed that the stable IT infrastructure is critical to the IT applications' implementation. It is a major business resource and can enables firms to implement the right IT applications to share information with others. As the theory mentioned, a firm's IT infrastructure is a major business resource and a key resource for attaining the long term competitive advantages through the IT applications running on it.

What's more, since the Live Meeting can save the travel cost and improves the communication efficiency greatly, we can say it is a value-creating IT application in Figure 2.1. And according to Applegate et al (2007), the IT infrastructure of VolvoCE and those dealers that succeed to use Live Meeting with VolvoCE, provided a enhanced foundation for the value-creating IT applications, as Figure 6.1 showed.
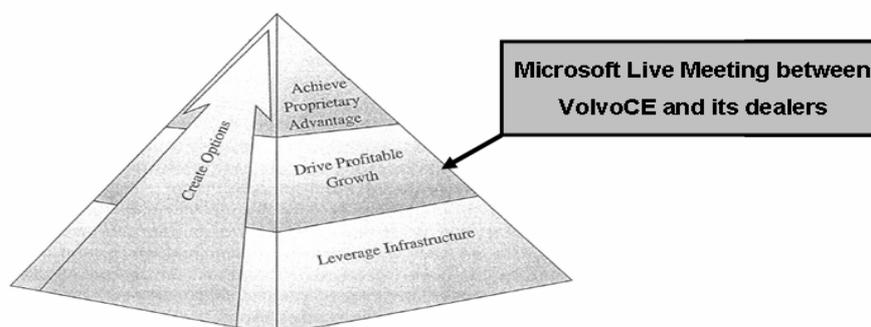


Figure 6.1: IT infrastructures of VolvoCE and its dealers (source: Applegate et al, 2007)

## 6.4. The organizations' IT capability can influence the adoption of the IT applications

The theory part 2.3 defined the IT capability as the firm's ability to combine its IT resources to achieve the business objectives or gain the business opportunities. The IT integration means the ability to integrate the new applications to the existed systems. IT flexibility refers to ability of the IT applications to both incremental and revolutionary changes in the business or business process with minimal penalty to current time, effort, cost, performance, and so on.

Even through the Live Meeting has the similar characteristics with Microsoft Office, but sometimes it has some conflict with the firewall or proxy and we still admit that the capability of the IT engineers from different dealers are different. Most of the IT engineers from dealers have the certifications from Cisco and Microsoft. We just send the instructions about how to install the software and how to use, without any face-to-face training. Most of them can install and run it quickly without any hitch but some of them can not troubleshooting the technical problems such as the engineer from the dealer of Angola, so we communicate many times through the Email and phone, finally the test was finished.

Not only the dealers' IT engineers, most of the business users can use it smoothly too. According to the feedbacks from the users in VolvoCE, when they use the Live Meeting communicate with the dealers, the users from dealers can use it without any problem. The feedbacks from dealers' IT department also coincide with the fact.

So we can say that the dealers' IT capability, both the IT engineers and the business users, contribute greatly to the adoption of the Live Meeting. If they have some problems during the testing and using, or they can not grasp the use method quickly, the project can not be finished so smoothly. The IT engineers' capability guaranteed the Live Meeting can be integrated with the existed system smoothly, and the users' capability guaranteed that Live Meeting can be used quickly without any cost for training or study.

## 6.5. The complexity of the IT applications can influence its adoption

As had mentioned above that the Live Meeting is not a very much complex application for both the IT engineers and users of dealers, which is a main reason that it can be grasped quickly without any face-to-face training. This advantage contributes greatly to the adoption of Live Meeting between them. If the application is another complex one such as ERP or SCM, definitely the users should be trained carefully before they start to use it. Even sometimes the users will refused to use it since it is hard to learn.

So the easy-to-use of the Live Meeting contributes greatly to its adoption. The fact verified the theory part that the complexity of the IT applications contributes to their adoption negatively.

## 6.6. The power of stakeholder can influence the adoption of the IT applications

The introduction part introduced that all the products and services of VolvoCE were sold to the customers through its dealers. On the other hand, based on the author's questionnaires, almost all the dealers' businesses are focused on the VolvoCE's products and services. So as a supplier, the price, quality, and cooperation that VolvoCE provided are critical to the dealers' business and profit. So we can say that the dealers' business depend on VolvoCE greatly.

During the beginning of the test period, some dealers did not responded to the questionnaires and thus we can not make test with them. To push the project move forward, we made a meeting with the sales directors of VolvoCE to discuss these problems. The sales directors of Middle East and Africa agreed to push the top managers of dealers for this project. As a result, more dealers responded and the project was moved forward greatly.

These facts coincide with the theory that the company's dependency and vertical coordination with its business partners will positively contribute to the adoption of the IT applications. And once the powerful players adopted the IT related systems earlier and benefit from them, for example the Live Meeting in VolvoCE, they tend to impose them on their trading partners. The company's relative power will positively impact the strategic and operational information sharing IT applications with its business partners.

## 6.7. The roles of users during the adoption period

According to the part of 2.6, when the participation of the business users was coupled with their business-need-based attitudes, the success possibility of the IT project was higher. In this project, both the users from VolvoCE and the users from dealers contribute greatly to adoption of the Live Meeting. We can see it in following aspects.

At first, the users from VolvoCE put forward the idea about use the Live Meeting to communicate with dealers, and they provided much valuable expectation and suggestion for it. Their involvement helped greatly to the success of the project. Secondly, the users from dealers grasped the skills about how to use the Live Meeting quickly without any training, and thus accelerated the process of adoption largely. At last, since the author does not know any people from dealers, and the business relationship between VolvoCE and dealers, VolvoCE's employees provided large amount information about it and the information contribute greatly to the process of the project.

What is more, the project was praised by the users because it provided enough support for their daily job. For example, during the Iceland Volcano period nobody can travel to the dealers, but their job did not influenced greatly by it because some of them can use the Live Meeting to communicate with the dealers. As the theory mentioned that the value of IT systems was reflected through the business users' satisfaction during the real job involvement and the IT systems' contribution to the business.

The theory also mentioned that the user should ensure comprehensive input for the IT projects that support vital aspects of the unit's operations, and participate in developing and maintaining IT plans. The users from VolvoCE provided enough input through the interviews and questionnaires. As a conclusion, the users from VolvoCE and dealers contribute greatly to the adoption and diffusion of the Live Meeting between them.

## 6.8. The contribution of the business executives

Business executives' support and confirmation also played a critical role to this project. At first, this project was confirmed by the business executives of VolvoCE such as sales directors from Africa and Middle East. They hold the opinion that the Live Meeting will decrease the cost and improve the efficiency of their daily communications with dealers and as a result, contribute greatly to the business.

Secondly, at the beginning of this project, we sent the letter of recommendation and questionnaire to all the business executives of dealers (see Appendix II). The aim was to introduce the advantages of the Live Meeting and to get their confirmation. Some of them, such as the CEOs of the dealers from Australia, Qatar, and Israel, confirmed it quickly and appointed an IT engineer to cooperate with us. As a result, these dealers finished the tests and deployed it in the daily job earlier than others. But on the contrary, some dealers' business executives did not reply the author's Email and as a result, the author can not make technical test with them, and they can not use this powerful tool at the end of this project.

The fact coincides with the theory that the business executives' support was one of the key success factors for IT systems' adoption. And the business executive's commitment to the strategic use of IT is a critical success factors that related to the alignment of IT plans with business plans.

The appointed engineer by the business executives illustrated that the "Business executives can allocate appropriate and adequate resources for the development of strategic IT applications, these resources are often necessary to ensure minimal delays and bureaucratic bottlenecks", and they stimulated a supportive environment to the implementation of Live Meeting system.

## 6.9. The roles of IT executives during the adoption period

In VolvoCE, the IT director understood clearly about the business users' need after the communication with them, and then the Live Meeting project was launched quickly. As the theory part mentioned that in order to meet the performance objectives and business requirements, IT executives should understand their organization's strategies and business plans, communicate with the business users frequently, and participate and contribute to business planning meetings of different levels in the organizations.

Through the frequent communication with different business managers, the IT director of VolvoCE has a clear business vision about how to use the Live Meeting to improve the efficiency and cut the travel cost. Back to Figure 2.2, we can see that the IT director of VolvoCE now is trying to align IT with the business and the next step is use IT to drive the business strategy, as Figure 5.1 showed.
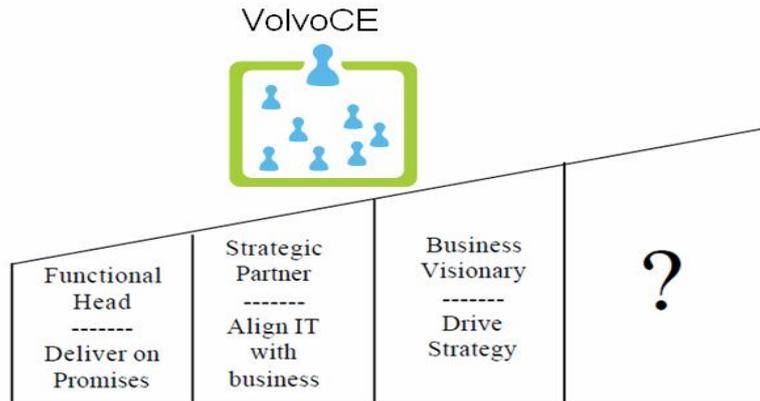
Figure 6.1: The IT executives' roles in VolvoCE

The theory also mentioned that to ensure the IT investments have the greatest impacts the IT executives should have the business vision and study together with the business executives about how the new technology can help a company to become more productive and competitive in the market. This is what VolvoCE's IT director is doing now. During the project period the author found that the IT director often meeting with the business executives and communicate with them during the lunch time. And during the communication with him, the author found he has a deep understanding about the business strategy of VolvoCE.

## 6.10. The roles of IT staff during the adoption period

The contributions of IT staff from dealers in this project can be summarized in following aspects. At first, as the theory part mentioned, they possess the problem solving, troubleshooting, implementation skills that needed to this project. The IT engineers of the dealers installed the software themselves and if there are some problems during the test, most of them can troubleshoot it themselves, such as the dealer of Saudi Arabia. Secondly, they provided enough technical support to the business users, when the business users have some technical problems during the installation and using of Live Meeting, they provided the timely support.

Besides the IT support engineers from dealers, the IT consultants from Volvo IT also provided the necessary support and essential instructions for this project. They provided the files of test instruction and user instruction for the project. What's more, when we have some technical difficulties during the test, the IT consultants from VolvoIT will join us to troubleshooting the problems. For example, when we test with the dealer from Egypt, a strange problem happened because we can not hear each others voice. The IT consultant of VolvoIT, who based on India, provided the long distance support and finally, we finished it.

As a conclusion, both the IT engineers from dealers and IT support consultants from Volvo IT have the experience for the troubleshooting and implementation of the IT project and contribute greatly to the project. Their contribution coincide the theory of Teo & Ang (1999) which listed in the critical literature review part.

## 6.11.  The culture influence on the adoption of IT applications

For this project, the dealers are from three different regions, Oceania, Middle East and Africa. There are many culture differences between these regions and definitely, these differences will influence the working culture of these different dealers. As the theory mentioned, acknowledging the influence of culture will facilitate the cross-culture collaboration and coordination, which could be critical in the implementation of new IT technology in different countries.

According to the theory part 2.10, fully understand the role of different culture under different business context will help resolve the conflicts result from mismatch, misinterpretation, and misunderstanding. For example the dealer from Oceania has the similar working culture with western countries. They can reply the email timely and punctual for the appointment of test. That is a main reason this dealer was the first successful case in this project.

Other examples are, as the author mentioned that Egypt's weekend is Friday and Saturday, so we can do test only on other weekdays and as a result, the test period is longer than other dealers. Some dealer's work culture is loose, they can late for the test time or even forgot it, as a result the test can not be carried smoothly. At last, most dealers are not locate in an English language countries, so even through we use English to communicate each other during the test period, sometimes we still can not understand each other. The language definitely has an influence upon this project.

These empirical data verified the theory that the culture difference can influences the development process of the IT applications. And realize the culture difference between different dealers, as the theory said, we gained a better understanding about how to leverage cultural factors to maximize the level of technology adoption and use while reducing the level of resistance. At last, as Kappos & Rivard (2008) said, culture influences the development process of IT.

## 6.12.  The isomorphic pressure on the adoption process

When we launched the project in February 2010, the author sent the questionnaires and recommendations to the business executives of all the dealers at the same time. But some of them replied quickly while some of them did not response for a longer time. As a result, the earlier respondent finished the test earlier for example the dealer from Australia, Israel, Qatar, and Saudi Arabia. The users from both VolvoCE and these dealers enjoyed the benefits of the Live Meeting greatly.

On the other hand, those dealers which did not reply the questionnaires, since we can not contact with their IT department, as a result they can not use this powerful tool with VolvoCE..

To accelerate the process of the project, the author sent the questionnaires again to those business executives that did not response the questionnaires in the first time. By the second email, we introduced the story of the succeed cases to them. This time some of them responded quickly. At the same time, these dealers showed a strong interest about how the succeed dealers use the Live Meeting and they enquired some information about the successful cases, they told the author that they hope they can use it too as soon as possible.

The fact verified the theory about the mimetic pressure, because this time these dealers responded quickly just because now they know some dealers can benefit from the Live Meeting and they hope they can benefit from it too. According to the theory, mimetic pressures result from organizations response to uncertainty and can cause an organization to change over time to become more like other organizations in its environment. Greater mimetic pressure will lead to greater intent to adopt the IT related applications between business partners on the extended enterprise network. And greater perceived success of one partner from the IT applications will lead greater intent to other partners.

# 7. Conclusions

In this thesis, the author reviewed several literatures and articles about IT adoption between business and business, and analyzed some factors that influence the adoption of IT applications between them. Even through there are some limitations for this thesis such as time and amount of empirical data, but through this web conference project, the author still summarized some valuable suggestions and experiences for the other IT projects.

## 7.1. What factors influence the adoption of IT applications between the company and its dealers?

Based on the web conference project of VolvoCE, the analysis part illustrated twelve different factors that can have an influence or contribution to the adoption of some innovative products between the company and its global dealers, especially the IT related innovative products such as the Microsoft Live Meeting between VolvoCE and its global dealers, as showed in Figure 7.1. The author holds the opinions that for IT managers who are involved in designing and implementing of the IT applications between company and the dealers, it is recommended to have an understanding about all these factors, and thus **IT can works as the dancing music for both the global company and its dealers in the business world**.

At the same time this thesis can work as a reference for their real job, especially for the IT managers from VolvoCE. Greater awareness of these factors can contribute to their IT projects' designing and implementing with a greater acceptance and user satisfaction.
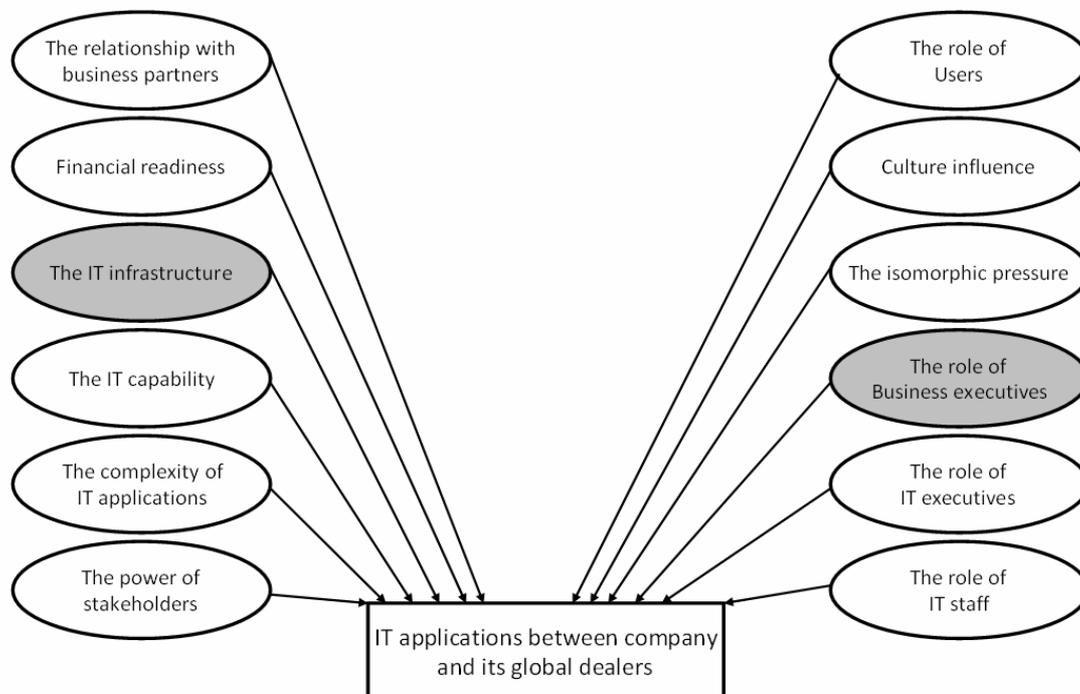


Figure 7.1: The factors that influence the IT adoption between VolvoCE and its dealers

## 7.2. Which factors are more important than others?

As Figure 7.1 showed, among these twelve factors, the *IT infrastructure* and *business executives' support* are more important than other factors, the reason was illustrated below:

At the end of this web conference project, there are some dealers that failed to adopt the Live Meeting. Two factors lead to this result, the first one is some dealers such as the dealer from Algeria and Pakistan, their general managers did not reply our questionnaires, even through the author sent it to them four times. Without their support the author can not contact with their IT department and as a result, the test and installation can not be carried on.

The second reason is because of the IT infrastructure. Some dealers for example the ones from Egypt, Angola, Congo and Nigeria, their general managers replied the questionnaire and their IT engineers cooperated with the author very actively. But because of some Internet and network reasons, for example the Internet bandwidth is not enough, or the Internet's quality is not stable, and the Firewall or Router are not compatible with the Microsoft Live Meeting, as a result the tests were failed and these dealers can not use Live Meeting to communicate with VolvoCE now.

## 7.3. Some benefits to VolvoCE and its dealers

Different IT applications have different contributions to the business. Some can improve the business efficiency and others can fulfill the business strategies. Based on the feedbacks from VolvoCE and its dealers to the author, the Microsoft Live Meeting contributes to VolvoCE and its dealers in several different ways:

1. The Live Meeting can save the travel cost and international telephone cost greatly. Without the Live Meeting, if the dealers need training about the new product, the training manager of VolvoCE must fly to the dealer's company to finish it. But now they can do it via the Live Meeting on Internet.

2. The communication efficiency was improved greatly. Like had mentioned above, since now some business communication such as training and meeting can be carried on by the Live Meeting, the travel time can be saved. What's more, now they can communicate each other anytime and anywhere they want.

3. Except the cost saving and efficiency improving, the business flexibility can be improved greatly by the Live Meeting system. During the Iceland's volcano period in April 2010, most of the European airports were closed and the world's business was influenced greatly. Without Live Meeting, most of the communication with dealers should be cancelled but because of the adoption of the Live Meeting, VolvoCE's communication with the dealers was not influenced so much.

# 8. Recommendations for the future research

In the introduction part the author mentioned some limitations of this thesis, which means that maybe the conclusion part was not absolutely comprehensive. Since the target readers are the academic students that focus on the study of IT related management and business, definitely they can make a further study for this thesis if possible. Here are some recommendations for them.

One recommendation is that, since the business partner includes not only dealers, but also distributors, resellers, suppliers, or even customers, so the future study can be conducted to investigate the factors that influence or contribute to the IT applications' adoption between different companies and partners from different industries. For example, the IT applications between H & M and its suppliers, the IT applications between ABB and its resellers, and so on. Then more factors can be found and some common conclusions can be generated from these studies, and the conclusion can be more comprehensive and universal.

Another recommendation is, since there are only two more critical factors were summarized in this thesis, the future study can make a further investigation and conclude a top-five or top-ten factors to the IT applications' adoption between the company and its business partners.

The author mentioned three benefits that the Live Meeting contributes to the VolvoCE and its dealers. The future study also can make a further study about what other benefits can be gained through the study of different IT applications between the global company and its business partners from different countries.

# References

**Books**

Applegate, L. Austin, R. & McFarlan, F., 2007. Corporate information strategy and management. Seventh edition. Boston: McGraw-Hill.

Bessant, J. & Tidd, J., 2007. Innovation and Entrepreneurship. Chichester, England: John Wiley & Sons. ISBN-13 978-0-470-03269-5.

Burns, P., 2008. Corporate entrepreneurship. Second edition. New York: Palgrave.

David, M. Andrea, B. & Roger, H., 2004. Web conferencing software tools – a comprehensive market survey. Switzerland: Institute of Information Management of the University of St. Gallen.

Fisher, C., 2007. Research and Writing a Dissertation: A Guidebook for Business Students. Second edition. England: Pearson Education Limited.

Hedman, J. & Kalling, T., 2002. IT and Business models. Malmö: Författarna och Liber AB.

McKenney, J. Copeland, D. & Mason, R., 1995. Waves of change: business evolution through information technology, Cambridge: Harvard business school press.

Rogers, E., 2003. Diffusion of innovations. Fifth edition. New York: Free press.

Turner, J., 1998. The role of IT in organizational transformation. NY University: stern school of business.

Yin, R.K, 1994. Case study research: Design and methods. Second edition. Newbury Park.


**Articles**

Bharadwaj, A., 2000. A resource-based perspective on information technology capability and firm performance: an empirical investigation. *MIS quarterly*, Volume 24, pp.169-196.

Burt, R., 1987. Social Contagion and Innovation: Cohesion Vs Structural Equivalence. *American Journal of Sociology*, pp.1287-1335.

Chwelos, P. Benbasat, I. & Dexter, A., 2001. Empirical test of an EDI adoption model. *Information Systems Research*, Volume 12, pp.304-321.

DiMaggio, P. & Powell, W., 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review,* pp.147-160.

Ginzberg, M., 1979. A study of the implementation process. *TIMS studies in the management sciences*. Volume 13, pp.85-102.

Hadaya, P. & Pellerin, R., 2008. Determinants of manufacturing firms' intent to use web-based systems to share inventory information with their key suppliers. *International journal of e-collaboration,* Volume 4, pp.29-54.

Iskandar, B. Kurokawa, S. & LeBlanc, L., 2001. Adoption of electronic data interchange: the role of buyer-supplier relationships. *IEEE transactions on engineering management*, Volume 48, pp.505-517.

Kappelman, L. & Mclean, E., 1992. Promoting information system success: the respective roles of user participation and user involvement. *Journal* of information technology management, Volume III, pp.1-12.

Kappos, A. & Rivard, S., 2008. A three-perspective model of culture, information systems, and their development and use. *MIS quarterly*, Volume 32, pp.601-634.

Krishnan, M.S. Rai, A. & Zmud, R., 2007. The digital enabled extended enterprise in a global economy. *Information systems research*, Volume 18, pp.233-236.

Keil, M. Tiwana, A. & Bush, A., 2002. Reconciling user and project manager perceptions of IT project risk: a Delphi study. *Info system J (2002) 12*, pp.103-119.

Madlberger, M., 2009. What drives firms to engage in inter-organizational information sharing in supply chain management? *International journal of e-collaboration*, Volume 5, pp.18-42.

Mark, D. & Monnoyer, E., 2004. Next generation CIOs. *McKinsey on IT*, spring 2004.

Melone, N. 1990. A theoretical assessment of the user satisfaction construct in information system research. *Management science*, volume 36, pp.76-91.

Nah, F. Zuckweiler, K. & Lau, J., 2003. ERP implementation : CIO's perceptions of critical factors. *International journal of human-computer interaction*, 16(1), pp.5-22.

Porter, M., 2001. Strategy and the Internet. *Harvard business review*. March, pp.62-78.

Pavlou, P., 2002. Institution based trust in interorganizational exchange relationships: the role of the online B2B marketplaces on trust formation. *Journal of strategic information systems,* PP.215-243.

Ross, J. & Feeny, D., 1999. The evolving role of CIO. *MIT sloan*, WP No. 4089.

Saraf, N. Langdon, C. & Gosain, S., 2007. The IS application capabilities and relational value in inter-firm partnerships. *Information system research*, Volume 18, pp.320-339.

Sharma, A. Citurs, A. & Konsynski, B., 2007. Strategic and Institutional Perspectives in the Adoption and Early Integration of RFID. *40th Annual Hawaii International Conference on System Sciences.*

Sharma, R. & Yetton, P., 2007. The contingent effects of training, technical complexity, and task interdependence on successful information systems implementation. *MIS Quarterly*, Volume 31, pp.219-238.

Teo, H. Wei, K. & Benbasat, I., 2003. Predicting intension to adopt inter-organizational linkages: an institutional perspective. *MIS Quarterly Volume 2 7*, pp. 19-49.

Teo, T. & Ang, J., 1999. Critical success factors in the alignment of IS plans with business plans. *International journal of information management*, pp.173-185.

Venkatesh, V. & Zhang, X., 2010. Unified theory of acceptance and use of technology: U.S. Vs China. *Journal of global information technology management*, Volume13, p.5.

Weiss, J. & Jr, D., 2004. CIOs and IT professionals as change agents, risk and stakeholder managers: a field study. *Engineering management journal*, Volume 16.

Wixom, B. & Todd, P., 2005. A theoretical integration of user satisfaction and technology acceptance. *Information system research*, Volume 16, pp.85-102.


**Websites**

About VolvoCE, 2010. About Volvo construction equipment. Available at: http://www.volvo.com/constructionequipment/corporate/en-gb/AboutUs/about_us.htm [Accessed at March 19, 2010].

Group presentation, 2010. AB Volvo group presentation 2010. Available at: http://www.volvogroup.com/SiteCollectionDocuments/VGHQ/Volvo%20Group/Volvo%20Group/Presentations/Group%20presentation%202010,%20Eng.pdf [Accessed at March 19, 2010].

Benefits of Web conference, 2009. Ease of use in web conferencing – why it matters. Available at http://www.wrplatinum.com/Downloads/9854.aspx [Accessed at March 19, 2010].

History, 2010. Volvo – the partner to trust. http://www.volvo.com/constructionequipment/corporate/en-gb/AboutUs/history/introduction.htm Available at [Accessed at March 19, 2010].

Top 12 Vendors, 2008. The top 12 web conferencing vendors. Available at: http://www.insidecrm.com/features/top-web-conferencing-vendors-120908/ [Accessed at March 18, 2010].

Web conference product, 2010. Web conference products web links. Available at: http://www.wainhouse.com/web-links.php?sec=191 [Accessed at March 20, 2010]

# Appendix I: Interviews of the VolvoCE users

1. *You use telephone to meet with them now, so if we build the live meeting system, what's your expectation to this system? Do you think such a meeting system can make your job more efficient and convenient? Do you think the dealers will refuse to use or build such a system because some other reasons (for example budget, do not have a good Internet, or even do not want to "monitored" by you)?*
2. *Do you often travel to meet with the dealers? If we built such a system, how many of your travel can be substituted by this system?*
3. *How big are your dealers? If we want to build such a system with them, we should make an agreement with their CEO? General Manager? Or other leaders? Because we need a high level manager's support and agreement.*
4. *Who are the one/ones that you often have meeting with? How many times per week? What are their job titles?*
5. *If we want to send a questionnaire to the dealers, can you recommend some contact that can help us to answer the questionnaire? What are their titles?*
6. *How can we do to make an agreement with all these dealers that before the end of May (for example), this system should be finished? We need their support during the test and implementation.*
7. *What kind of meeting do you usually have? Training, seminar, communication for some emergent issues, or others?*
8. *For one meeting, usually what is the number of meeting members usually?*
9. *What functions do you need? Audio, video and data, will you use some special software such as CAD/Photoshop?*
10. *Because of the difference of time zone, when do you have meeting with your dealers usually? In Swedish morning or afternoon?*
11. *You have meetings with only one dealer every time? Or several dealers together? Are they located in the same country?*

# Appendix II: Questionnaires to Dealers

## Project introduction to the high level managers of dealers

*The market competition becomes more and more violent in our construction equipment industry, especially in nowadays recession period. To provide a better support to our dealers in different countries, we decided to use a web conferencing system between Volvo CE Region International and the dealers in different regions. It is not only a tool to help us to save business travel cost and time, but also a tool to improve the communication efficiency between us, especially for the sales & marketing and training related communications.*

*The project was started in February 2010 actually. Before sending this survey, we already finished an interview with several Volvo CE's employees that work closely with dealers and customers, for example area sales manager, sales training manager, remarketing manager, area customer support manager, technical training manager, business manager and so on. According to their feedbacks and recommendations, such a conferencing system is needed and will help them greatly in their daily job related with dealers and customers.*

*The adopted software for this web conferencing project is the Office Live Meeting 2007 from Microsoft. It is already used inside Volvo Group for more than one year. It works very well and at the same time we can get technical support and instructions from Volvo IT. You need to buy the related software and hardware (computer, microphone and so on) yourself, and we will send you a requirements list later.*

*The questions in this survey are related to the fundamental information about your company. We hope you or your employees can finish all of them as soon as possible, and it will be very helpful to our project's progress.*

*According to the project plan, we will try to finish this project before the end of May 2010. During the next 2 months we will test the system for several times, so please appoint 1 or 2 IT engineers to cooperate with us during this period.*

*At last, one of our team members for this project is Xiaokun Yang. He is studying his master degree of IT-Management in Mälardalen University now. This project is the main topic of his master thesis. So some of the following questions will be used in his thesis and he will appreciate your help very much.*

***Once again, thank you very much for your understanding and support!***

## Questions about the dealer's company

1. *Do you use Live Meeting or other conferencing system in your own company today?*
2. *Have you used Live Meeting in connection to Volvo office before? If yes, did it work properly?*
3. *Would you like to use Live Meeting to connect with us?*
4. *What is the name of your company?*
5. *What is your company's website?*
6. *Which country is your company located in?*
7. *What is the number of employees in your company?*
   A. *0-49*
   B. *50-99*
   C. *100-200*
   D. *200-more*
8. *What departments in your company have the need to communicate with Volvo CE frequently? Multiple choices are possible.*
   A. *Sales department*
   B. *Marketing department*
   C. *Finance department*
   D. *HR department*
   E. *After-sales department (customer support)*
   F. *IT department*
   G. *Others, please list their names_____*
9. *How many subsidiary companies or branches are distributed in different cities and have the need to communicate with Volvo CE in your company?*
10. *How wide is your company's Internet bandwidth?*
11. *Who is the contact person that can cooperate with us during the test period and implementation period, please give us his/her contact information:*

    *His/her full name:_____*
    *His/her telephone number:_____*
    *His/her Email address:_____*