Factors in Management Systems contributing to Business Excellence

A Case study of Veoneer Sweden AB

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Abstract

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Jyotiska De and Vijith Valentine Quadros

This study is concerned with the identification of the factors in management systems which contribute to business excellence in an organisation. Considering that every organisation regardless of sector and size wants to achieve business excellence, and every organisation is made up of multiple clusters of management systems, this is a highly interesting topic for the researchers and the case company, Veoneer. However, despite the prominence in the importance of a management system and goals to achieve business excellence, there is a lack of contemporary research on how management systems contribute to business excellence. To fill this gap, a case study was conducted identifying factors of management systems through benchmarking three organisations that have achieved business excellence and conducting interviews at Veoneer Sweden AB. Through drawing upon data from the interviews with 14 people at Veoneer, it was found that management systems contribute to business excellence through systemic and cultural factors. A mix of cultural and systemic factors were found to be important in a management system’s contribution to business excellence. Additionally, feedback systems and a diverse management system team were identified to be important for the implementation of a management system.

Keywords: Management System, Business Excellence, Culture, System
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POPULAR SCIENCE SUMMARY

Factors in Management Systems contributing to Exceptional Performance

In an increasingly globalised world where organisations compete to attain the highest level of quality and customer satisfaction, management systems and business excellence provide strong foundations over which organisations can build upon, regardless of sector, size and scope. While its end-results are measured by quality, customer satisfaction, etc., metrics which are easily understood and quantifiable, management systems and business excellence are omnipresent in organisations, yet barely noticeable. Chinese philosopher Mo-Tze best describes the importance of management systems by saying “Whoever pursues a business in this world must have a system. A business which has attained success without a system does not exist…With a system, even the unskilled may achieve the same result as those that have the highest levels of skills” (Wu 1928).

Exceptional performance is a goal which every organisation aims to achieve, both through financial and non-financial parameters. Performance of the highest level, then requires an organisation to structure itself through its goals, products, processes, people and systems, among other things, to lead to this level. This collection of goals, products, processes and engagement of people forms clusters of management systems within an organisation. Commonly, these systems are linked with each other in order to measure different organisational parameters, work in collaboration, share knowledge and resources, etc., with a shared common goal of achieving exceptional performance. Business excellence is exceptional performance of an organisation, based on these internal and external organisational factors.

The link between management systems and business excellence provides opportunities to identify factors in management systems contributing to business excellence. Veoneer Sweden AB has management systems and aims to achieve business excellence through these systems but the lack of existing research in this area hinders this process but provides an opportunity to exploration. This research explores the area of linkage between management systems and business excellence to identify factors which can help organisations achieve business excellence through management systems.
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ABBREVIATIONS

ASU – Actual System Usage
ATU – Attitude Towards Using
BE – Business Excellence
BIU – Behavioural Intention to Use
DM – Delone and McLean Model
ETK – Ericsson Nikola Tesla
EFQM – European Foundation for Quality Management
ISO – International Organization for Standardization
IETT – Istanbul Electric Tramway and Tunnel
MBNQA – Malcolm Baldrige National Quality Award
PDS – Process Development System
PEOU – Perceived Ease Of Use
PU – Perceived Usefulness
QIT – Quality Improvement Team
TAM – Technology Acceptance Model
TQM – Total Quality Management
VES – Veoneer Excellence System
1 INTRODUCTION

The introduction provides a background on the management systems and business excellence, followed by the identification and formulation of the problem, and the aim of this study. This is followed by the purpose of the study, definition of the research question, followed by limitations of the study and the outline of the rest of the paper. It also includes a description of the company Veoneer Sweden AB, which initiated and supported the study.

1.1 Background

Globalisation has opened up free trade markets and increased competitiveness for organizations, worldwide. Management systems have become vital for organisations in order to compete in local and global markets, providing a pathway for globalisation (Mohammad, 2006). Additionally, the implementation of management systems has helped organisations with improvements in overall quality, cost savings, improved customer satisfaction, enhanced employee motivation and provided a better external image of the organisation (Karapetrovic, et al., 2012). This business trend has gained significant momentum with countries, for examples Sweden, The Netherlands, Denmark and Australia have developed or are developing standards for management systems (Jørgensen, et al., 2006). The effect of this business trend has led to increased cooperation between governments and organisations to bring quality consciousness in order to gain a competitive advantage in international trade (Tan, 2002). As a result, governments and organisations have increasingly been developing business excellence frameworks and national quality awards to enhance the level of quality in organisations thereby promoting increase in trade.

Business excellence is a milestone which every organisation focusing on growth, aims to achieve. This milestone is reflective of the performance of an organisation and its competitiveness in the markets in which it operates (Mann, 2011). In order for organisations to achieve business excellence, they are required to structure their management systems and culture, within the organisation, which results in sustained performance and competitiveness (Latham, 2012). The usage of management systems to achieve business excellence helps managers and leaders of an organisation leverage an explicit system (Latham, 2012) to steer it towards improved quality, satisfied stakeholders, and customer satisfaction (Kanji, 2002). Business excellence has also proven to increase the financial performance of an organisation.
Organisations which implemented business excellence and won the award saw an increase in financial performance through both sales revenues as well as increase in share value of the organisation (Dahlgaard, et al., 2013).

Business excellence inherently depends on good management systems as a basis, in addition to cultural changes for the achievement of business excellence award and the benefits of achieving business excellence (Gómez, et al., 2011). This involves holistic approach of culture and systems view of management systems for an organisation to achieve business excellence. On the contrary, business excellence models address cultural problems and fail to recognise systemic views, while total systems approach failed to understand cultural view (Wilkinson & Dale, 1999). By identifying systemic and cultural factors of management systems contributing to business excellence, companies can design, develop and implement management systems which contribute to business excellence inherently, over a period of time.

Therefore, the identification of factors in a management system to achieve business excellence is an important area to be studied. The outcomes of this study could help the case company – Veoneer, as well as other organisations which aim to achieve business excellence through management system approaches.

1.2 Problem Statement
Gómez, et al., (2011) claimed, in the study of the EFQM model that, in order for an organisation to be successful, whatever its size, sector, structure, etc. it should have a good management system. The ISO 9001 and ISO 9004 standards by the International Organisation of Standardisation (ISO) provide a good model for organisations to develop a management system out of the minimum requirements status of TQM sphere, on the roadmap to excellence (Seghezzi, 2001). These standards focus on the integration of partial management systems considering integration to be one essential path to the roadmap of excellence (Seghezzi, 2001).

Research points to the importance of a good management system as a roadmap to business excellence but there exists a gap in research about what consists of a good management system. Yang (2009) in the study of integrated model of business excellence system highlights factors to be considered for enterprise integration of the business organisation. However, this study (Yang, 2009) does not provide the factors of a management system. Furthermore, Wilkinson & Dale (1999) highlight business excellence models like EFQM, address cultural problems and
offer opportunity for facilitation business improvement but fail to recognise the total system approach. Total systems approach, on the other hand fails to address culture (Wilkinson & Dale, 1999).

The lack of research in the holistic view of factors important in a management system contributing to business excellence provides an opportunity for potential solutions brought forward, and a contribution is made to existing literature in management systems and business excellence. This research study intends to identify factors of a management system contributing to business excellence of an organisation.

1.3 Research Area
This paper researches BE models and management system design. However, the study inevitably touches upon the field of organisational development and system design, in relation to the BE models and management systems, respectively. This is due to that the paper seeks to use criteria highlighted by the BE models and the system related elements highlighted by management system studies to provide a multi-factor analysis of management systems’ contribution to business excellence. The emphasis on importance of organisational and systemic factors of a management system, designed with business excellence as an end goal is discussed throughout the whole paper. This further means that the study to some degree also falls within the area of business excellence. The company being researched is Veoneer Sweden AB.

1.4 Purpose and Research Question
The purpose of this study is to identify the factors of a management system contributing to business excellence. Additionally, the research study aims to find out the important criteria in a business excellence model which can be used in designing a management system. This study poses the following research question:

- What are the factors in a management system contributing to business excellence?

1.5 Limitation
The first limitation of this study is that the factors are considered to be most relevant to the management system of the case company, Veoneer Sweden AB. Therefore, all the factors might
not be relevant for other organisations looking to achieve business excellence through management systems. The second limitation is, the study only considers management systems of Veoneer Sweden AB and not global Veoneer management systems. The third limitation is that management system information is confidential to each organisation, hence the research provides a holistic systemic view of management systems while referring to systemic view of management systems. The fourth limitation is that the study focuses only on internal stakeholders of the organisation. This is due to the time-restrains of the study.

A potential limitation of the study is that excellence models and management systems are one of the methods, for an organisation to achieve business excellence. The excellence models in themselves provide a holistic and extensive framework for organisations to achieve business excellence. Current limitations in the study of excellence criteria in management systems is limited. However, the factors still provide a holistic view of the importance of business excellence criteria in management systems.

1.6 Company Description

Veoneer is the world's largest pure-play supplier in the area of sensors and decision-making software focusing on Safety electronics, Collaborative Automated Driving (AD), and Advance Driving Assistance System (ADAS). The business of Veoneer is focused on supporting the United Nations Sustainable Development Goal #3(Reducing global deaths and injuries from road traffic accidents) through its products (Veoneer, 2018). Veoneer’s products include vision systems, radar systems, fusion controllers, brake controllers and decision-making software that are widely expected to play an integral part in the next generations of cars over the coming decades. Veoneer are also known as the market leader in the product group of Night vision (Veoneer, 2018).

Veoneer started as a subsidiary of Autoliv (the world’s largest supplier of automotive safety products) with the experiences of designing, manufacturing and delivering electronic safety products for two decades. Then in 2018, Veoneer was spun-off from Autoliv, to become a fully independent company (Veoneer, 2018). Veoneer was built on the heritage of approximately 70 years of automotive safety development. Over the last decade, Veoneer (both as Veoneer and as part of Autoliv) have delivered more than 4 million cameras and almost 33 million radar sensors along with approximately 750 million electric control units and crash sensors to car
manufacturers globally (Veoneer, 2018). The uniqueness of the company is in terms of its position as a technology company being committed to creating trust in mobility. They are driven by their core strategy which is to deliver innovative solutions that drivers and car manufacturers can trust. Veoneer aims to achieve its strategy through three strategic core-pillars; flawless delivery, customer-centric collaboration and human-centric innovation (Veoneer, 2018).

Currently, Veoneer is present in 13 countries with 10 manufacturing sites and 26 technical centres, globally. Veoneer in Sweden is located in 5 different cities; Linköping, Stockholm, Gothenburg, Vårgårda, and Skellefteå.

In 2018, Veoneer made 2.2 Billion USD in Net Sales with Honda, Daimler, Ford, Hyundai/Kai, and General Motors being their top customers (Veoneer, 2019).

1.7 Disposition

The remainder of this paper will be presented in the following way. First, a theoretical framework will be provided, summarizing the existing research done in the field of management systems and business excellence models. This would be followed by methodology, illustrating why the research methods were chosen, how the research was conducted, followed by presenting the empirical data. The paper continues with an in-depth analysis and identification of factors of management systems contributing to business excellence. Lastly, the paper contains suggestions for future research.
2 THEORY

The following section provides the theories on management systems, business excellence, excellence models discussing the underlying cultural factors that have been found to be relevant for organisational system’s performance. Furthermore, literature reviews on the underlying factors from the system dimensions that have been found relevant to the performance of the system, have been discussed. At the end of the section, a theoretical framework is illustrated built from reviewing existing literature.

2.1 Management Systems and Business Excellence

Management System is a commonly used term among academia and industry but there are difficulties in location an official definition of the term management system. The Oxford English dictionary was turned to, for guidance but the search for the term management system gave no hints. Searches made on a business dictionary website, Business Dictionary provide a reference of systematic documented approach for smooth functionality of systems through standard practises (Business Dictionary, n.d.). A more apt definition is provided by the ISO which says, “A management system is the way in which an organization manages the inter-related parts of its business in order to achieve its objectives” (ISO, 2017).

Many organisations and authors have tried to define business excellence. EFQM describes Business Excellence as the outstanding practises in achieving results and managing an organisation based on a set of eight fundamental concepts, these being “achieving balanced results; creating value for customers; leading with vision, inspiration & integrity; managing by processes; succeeding through people; nurturing creativity and innovation; building partnerships and taking responsibility for a sustainable future” (EFQM, 2017). Kanji (2002) has a similar definition with reference to measurement of customers, employers, and shareholders’ satisfaction to obtain a comprehensive evaluation of organisational performance (Kanji, 2002). Performance Excellence is another term which is used in place of the term Business Excellence (Klefsjö, et al., 2008). There is a rising trend in the usage of the word “business excellence” due to the commercial appeal, rather than “quality” but partly also because of the widened focus of assessment criteria that business excellence focuses on (Klefsjö, et al., 2008).

Business Excellence derives its roots from Total Quality Management (TQM) principles by shifting focus from “management of quality” to “quality of management” and removing the ownership of organisational quality and output from the quality department and making every
part of the organisation responsible for the end product (Adebanjo, 2001). While TQM implementations are looked upon, within an organisation, as a mechanistic tool and technique, Business Excellence provides guidelines for key organisational issues without being prescriptive, hence easily understandable (Adebanjo, 2001). Furthermore, Business Excellence frameworks provides determined set of criteria hence avoiding misunderstandings and interpretation issues, which the TQM ideology falls victim to, making Business Excellence more feasible for organisations to train its staff on (Klefsjö, et al., 2008; Adebanjo, 2001). A key benefit for Business Excellence is the ability of self-assessment and benchmarking, helping organisations assess their current performance, identify best practises and integrate improvement without the requirement of external help (Adebanjo, 2001).

2.2 Core Themes of Business Excellence

Kanji (1998) in his study of measurement of business excellence identified a number of different dimensions that were used together to measure the business excellence. Leadership, management by fact, delight the customer, people-based management and continuous improvements were the major dimensions that were identified in the model (Kanji, 1998). These dimensions were found to be related through their concepts and definitions to the core themes used by Porter and Tanner (2004) to define business excellence. The dimensions of leadership, people-based management and fact-based management were found to be common in both the studies. The theme of organizational learning, innovation and improvement could be related to the principle of continuous improvements in terms of their definitions and impacts in business excellence. The principle of "delight the customer" involves effects on both internal customer and external customer for an organization. This could be both linked to customer and people focus where the users of the management system could be defined as the internal customer in the organization. Combining all the dimensions, the core themes of excellence could be stated as below:

Leadership: It is defined as the specific behaviours leadership for setting the clear direction and values for the organization. The key to excellence is considered as the creation of customer focus, and empowerment of the organization and its people (Kanji, 1998; Porter & Tanner, 2004).
Strategic Alignment: The concept of strategic development, alignment and planning are considered to be very important (Porter & Tanner, 2004).

Organizational learning, Innovation and Continuous Improvement: The individual and organizational learning, improvement and innovation are achieved through effective sharing of knowledge and information and is considered as a critical element in an excellence approach. (Kanji, 1998; Porter & Tanner, 2004).

People Focus: The success of the organization depends highly on the creativity, knowledge, skills and motivation of the people in the organization. The potential of people can be best harnessed through shared values that are supported by the culture of trust and empowerment. (Porter & Tanner, 2004)

Fact-based Processes Management: Value proposition of organization are delivered by processes and focus must be on the design of the process to meet customer requirements, systematic management of the process on the basis of facts and improvement of the process on the basis of customer feedback and the feedback from the process itself. The capability of the process is based on the ability of the process in the organization to meet the requirements of the customer (Porter & Tanner, 2004; Kanji, 1998).

The themes which were not included in this study are customer focus, partnership developments, social responsibility and result focus (Porter & Tanner, 2004). This is due to the limitation of the scope of the study as it only involves the internal stakeholders of the organization.

2.3 Business Excellence Models

Business excellence models are considered to be an effective way to pursue excellence globally (Talwar, 2011). What is more, excellence models are made of soft factors i.e. culture, people, leadership, etc., which cannot be captured by a standard model. Standards are a compromise and do not necessarily follow the dynamics of progress in knowledge. (Sampaio, et al., 2012). This encourages organisations to adopt business excellence models because of the realisation that the models promote best practises, providing tools to achieve a strategic quality, benchmark best practises, self-assess and continually improve (Sampaio, et al., 2012).
BE models are regarded as advanced TQM methodologies (Bou-Llusar, et al., 2009; Doeleman, et al., 2014; Gutiérrez, et al., 2010; Sun & Cheng, 2002). TQM is characterised as a set of ‘guiding principles’ or a set of improvement methods (Eng & Yusof, 2003). The cornerstones of TQM methodology is usually considered to be employee empowerment, involving and training; holistic focus on the organisation; management commitment towards creating both systems and culture to foster continuous improvement; customer focus and orientation (Eng & Yusof, 2003; Andersson, et al., 2006; Prajogo & Brown, 2006). BE Models are used as diagnostic tools for self-assessment, benchmarking, derivation of strategic initiatives and plans for improvement and identifying potential areas of improvement (Talwar, 2011).

Three BE Models are considered to be globally accepted and widely used. They are European Excellence Model by EFQM, also known as the EFQM Model, Malcolm Baldrige National Quality Award (MBNQA) and the Deming’s Prize (Talwar, 2011; Sampaio, et al., 2012). These models have been used as a baseline for many other national excellence models and quality awards across the world, for example Swedish Institute for Quality (SIQ), which adapted the MBNQA model (Raharjo & Eriksson, 2017). The CII-EXIM Bank Award in India is based on the EFQM Model, and countries like Singapore, Japan, Philippines, Fiji and Thailand using EFQM model as a reference (Talwar, 2011). In a study by Tan, et al., (2003), which looked at difference in 53 National Quality Awards reported that most of the models were based on MBNQA and EFQM.

2.4 Comparative View of EFQM and MBNQA Excellence Models

Founded in 1988, the European Foundation for Quality Management (EFQM) had the objective of helping European companies become competitive in the international market place (EFQM, 2019). One of the early decisions of the EFQM was to create a quality prize following the American example of MBNQA (Conti, 2007). The EFQM Model, was built on the principles of TQM with nine criteria: leadership, people, strategy and policy, processes, partnership and resources, people results, customer results, society results and key performance results, as shown in Figure 1. The model is governed by eight fundamental concepts and a measuring system. The nine criteria are further grouped into ‘enabler’ and ‘result’ criteria. Enablers cover the means, process and structure of the organisation while the results criteria cover performance in a broad way (Nabitz, et al., 2000).
The Malcolm Baldrige National Quality Award was created by the United States Commerce Department, in 1987, to raise awareness of quality management in American businesses and to promote the efficient control of quality for products and services (Savov, et al., 2017). The MBNQA model of excellence, as shown in Figure 2, is based on the application of seven criteria: leadership, customer focus, strategic planning, measurement, analysis and knowledge management, human resource focus and performance results (Garvin, 1991). The core concepts of TQM are captured and used in the seven criteria of the MBNQA (Curkovic, et al., 2000). The MBNQA provides a comprehensive framework wherein it is widely used as a model for process improvement and performance excellence and built upon a set of interrelated core values and concepts (Flynn & Saladin, 2006).

Figure 1: The EFQM Model.
Source: (EFQM, 2012)

Figure 2: Malcolm Baldrige criteria for Performance Excellence
Source: (Madanat & Nuseir, 2017)
Table 1 provides a comparative view of the EFQM Criteria and the MBNQA Criteria for Business Excellence and Performance Excellence, respectively.

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*Table 1: Comparative View of EFQM and MBNQA Criteria*

2.5 Management Systems in Business Excellence

Management systems are an important practise and part of any quality based frameworks and system (Yang, 2009). Yang (2009) conceptualised an integrated holistic management model which highlights the requirement of management systems and a quality framework for the development of excellence in any organisation. These systems help in the ‘measurement by fact’ which is one of the key steps in the TQM principles and the Six Sigma approach (Kanji, 1998). Kanji (2002) emphasises that the first condition to achieve business excellence is the development and implementation of a system for management. This helps in the identification of possibilities for improvement, current measure of resources and uses this data for improvement. As Business Excellence models, like MBNQA, EFQM Excellence Model, etc. are built on the principles of TQM (Yang, 2009), it is implied that management systems become an integral part of an organisation’s achievement of business excellence. Peters and Waterman (1982), in their famous book *In Search for Excellence – Lessons from America’s Best-Run Companies*, further emphasise the success criteria behind excellence are a combination of both software like management systems, shared values, staff and hardware criteria like strategy and structure of an organisation (Peters & Waterman, 1984). The MBNQA Excellence framework and award emphasises on design and usage of management systems as a criterion for excellence.
Latham (2012) noted that a part of the reason for over 90 percent of applicants of the Baldrige award, not receiving it was due to badly designed and used management systems. Organisations hire intelligent executives to lead and manage the organisation without the benefit of management system leading to focus of near-term “fixing problems instead of long term excellence (Latham, 2012). The EFQM Excellence Model assumes that an organisation looking to achieve business excellence has a good management system to support its journey towards excellence, regardless of the size, sector, etc. (Gómez, et al., 2011).

2.6 Integration of Management Systems

Integration is generally defined as the process of combining different parts into a single entity. Beckmerhagen et al. (2003) define integration of management system as the process of putting together different function-specific management systems into a single and more effective integrated management system (Beckmerhagen, et al., 2003).

Krzemien and Wolniak (2005) concluded on the need for an integrated approach in designing the information system of the organization to make it more effective and optimized (Krzemien & Wolniak, 2005). Chapman and Kihn (2009) found a direct association between integration and perceived system success and positively influence financial performance via enablers (Chapman & Kihn , 2009). In another comparative study of integration of management system in three companies, Sampaio et al. (2012) pointed out that integration of management system resulted in significant internal improvements of all the companies and the organizational performance would have been inferior if integration was not done (Sampaio, et al., 2012). Sampaio et al. (2012) further conclude that there is a clear advantage of integration when the companies’ strategy is to implement more than one management system by avoiding the development of organizational “islands” related to each subsystem. Based on holistic perspective of the system, this organizational “island” structure hinders the solution of global optimisation (Sampaio, et al., 2012).

Rasmussen and Jorgensen (2007) and Asif et.al (2010) have highlighted the need for integration of standards and systems in a holistic system for enabling the organization to manage their operations through a single management system (Rasmussen & Jørgensen, 2007; Asif, et al., 2010). Karapetrovic and Jonker (2003) pointed out the benefits of a holistic management system in terms of possibility of sharing of human, material, informational, infrastructural and
financial resource pool. This would further lead to enhancement of synergies between different standards in the organization and improvement of organizational efficiency and profitability (Karapetrovic & Jonker, 2003). Almeida et al. (2014) in their study of different perspectives on management system integrations pointed out the various motives that are behind the decision to implement integration. Main motivations that were listed by the respondents in the study were corporate image improvement, stakeholders’ relationship improvement, processes optimisation, documentation reduction and internal organisation improvement (Almeida, et al., 2014).

Separate and incompatible management subsystems in the organizations have caused significant costs, increase in errors and failures, efforts duplication, unnecessary bureaucracy and excessive documentation which have significant negative impact on the stakeholders of the organization (Beckmerhagen, et al., 2003; Domingues, et al., 2012; Sampaio, et al., 2012). Zeng et al. (2010) reported that in an organization with multiple management systems when not integrated, increases the internal management complexity level, decreases the management effectiveness and increases the management costs (Zeng, et al., 2010). Ismail et al. (2009) also reported that the overlapping of local management subsystem interest with global organization interest causes major problem in the success of the organization (Ismail, et al., 2009).

It was in 1996 when the integration of management systems gained interest after the ISO 14001 was introduced (Karapetrovic & Jonker, 2003). In a case study (López-Fresno, 2010) by López-Fresno (2010), integration of management systems was concluded as one of the major requirements for organizations to achieve a framework for decisions complying policies and strategies along with cost-effectiveness and competitive advantage. In another study by Almeida et al. (2014), it was stated that working with separate management systems results in higher costs, increase in errors and failures, duplication of efforts, unnecessary bureaucracy and excessive documentation. Telukdarie, et al., (2018) identified that integration of centralized functions such as research and development, optimizations of assets, corporate planning (strategy, investment planning, financial), and supply chain together delivers significant business value delivering strategic and operational benefits (Telukdarie, et al., 2018). The authors in this study (Telukdarie, et al., 2018) utilized industry 4.0 platform for this approach. A similar approach was seen in a case study of integration of management control systems through digital platforms which highlighted the necessity and benefits of such integration of the management systems (Corsi, et al., 2017). Similarly, Peljhan & Tekavcic (2008) in their
study of interaction between management system and strategy established the importance of holistic use of management system and making the cause and effect relationship transparent instead of separately improving each system which might have hindering effect on other systems if not considered as a single system (Peljhan & Tekavcic, 2008).

Seghezzi (2001) identifies the existence of partial management systems that are isolated with conflicts in contents and duplication of activities. He proposed integration as a solution for improving the effectiveness and efficiency of the systems (Seghezzi, 2001). He further suggested that integration of partial management systems into a comprehensive total system would help avoid the disadvantages due to multiples system and increase the synergy within the organization by improvement of communication among different departments and units of the organization in the functional areas (Seghezzi, 2001). Seghezzi (2001) concluded integration as an essential path of the road trip to business excellence. Davies (2008) confirms this during his study and finds that integration plays an important role in effective implementation of excellence model (Davies, 2008).

Yang (2009) highlighted the problem of implementation of various management systems or tools and suggested that it is both desirable and possible to integrate quality systems along with other relevant management systems and programs together to develop an holistic system. Yang (2009) further suggested that the model of the holistic system needs to integrate with framework of business excellence models as the framework of the excellence models are based on the total quality management system principles. Yang (2009) concluded that mission, values, vision, leadership, execution and organizational culture are all linked and combining them all represents the guiding principles for the successful implementation of an integrated business excellence system. The author further points out that importance of implementation of best practices resulting into value to and from the customers and highlights that as all the management systems are not implemented effectively, the synergistic benefits of the implementation of all these systems cannot be achieved (Yang, 2009). This also is identified as the cause of a need to develop an integrated business excellence system that incorporates all these systems (Yang, 2009).

Several other studies (Ahidar, et al., 2019; Paraschia , et al., 2019; Paranitharan, et al., 2017) were also found to be done on development of model that involves integration of various management systems. Ahidar et al. (2019) developed a model of integrated management system
with integration approach based on theory and practice in the automotive sector integrating IATF16949:2016, ISO 14001:2015, ISO 45001: DIS and some aspects of ISO 26000. This study was also an approach to shed light on the link of excellence model with integrated management system stating that the enablers in the excellence model are covered by requirements of integrated management system (Ahidar, et al., 2019). Similarly, an integrated manufacturing business excellence system was developed on a model by Paranitharan, et al. (2017) which comprises of global manufacturing concepts including total quality management, total productive maintenance, corporate social responsibility, knowledge management, lean manufacturing, agile manufacturing and sustainable manufacturing (Paranitharan, et al., 2017). This study (Paranitharan, et al., 2017) contributed to the purpose that may lead to achieve excellence in manufacturing performance and could maintain competitive advantage in manufacturing industry. This study also affirms the requirement or necessity of the holistic view of integrated management system in manufacturing (Paranitharan, et al., 2017). In another study by Paraschia et al. (2019), an airport business excellence model was developed in the framework of excellence in order to have holistic view of the multidimensional airport business system. The study first mapped the main key performance areas with the individual indicators of the excellence model and further the complex network of causal linkages among these indicators were explored (Paraschia, et al., 2019).

2.7 Standardization and Harmonization

Standardization have been identified by many studies (Cooke & Peterson, 1998; Mabert, et al., 2000; Kumar, et al., 2002) as one of the top motivation for integrating the use of enterprise system in the organization. Goodhue et al. (1992) have listed that standardization aids in better information exchange and coordination within subunits in an organization (Goodhue, et al., 1992). Based on the framework by Shang and Seddon (2002), Staehr (2007) identified the benefits of standardization. Standardization in the system can increase flexibility thus improving communication across the organization (Staehr, 2007). Further, they added that standardization across the organization aids in providing the organization a single face to its stakeholders (Staehr, 2007). The process of standardization also allows the possibility to compare performance between different plants or units of the organization (Staehr, 2007). Gattiker et al. (2005) also stated that standardization in organization can helps in bringing two different processes in line with each other from different locations in the organization. The firm can then illustrate a single image to its stakeholders (Gattiker, et al., 2005). A single common
view also helps in presenting forth a best image rather than dealing with different image from different location of the organization (Gattiker, et al., 2005). Information asymmetric also can be eliminated to allow increased internal control and open access to information to the user of the system. It facilitates better collaboration between different units and result into fewer conflicts and increased efficient communication providing easy access to information to each location and function in a way they would want (Gattiker, et al., 2005). Standardization also helps in increasing the simplicity of the system. Gattiker et al. (2005) concluded that the benefits of lean enterprise can achieved by standardization (Gattiker, et al., 2005). Hawkins et al. (2004) also highlighted that standardization aids in optimisation of business process in their study of realisation benefits from enterprise system (Hawkins, et al., 2004).

In the study phenomenon of business process modelling by Romero et al. (2012), two approaches standardization and harmonization were identified useful when multiple processes with same goals are to be addressed. Sometimes it is related to the range of different processes and sometimes it is also related to different processes from different locations separated geographically. These two most common approaches are used when organizations try to garner benefits from consistent practices in order to streamline their operations for optimum performance. Harmonization is the way of how to put varying practices together to make the entire process smooth and problem free. Standardization on the other hand is to adopt a uniform approach for a task. It has been acknowledged in literature, standardization provides several benefits such as improvement in efficiency, reduction of complexity and costs. However, it is also acknowledged that full standardization is not possible in every case because of various cultural differences, location difference or the different type of processes that is being dealt with. Harmonization deals with the trade-off that lead to degree of standardization. Harmonization also provides various benefits ranging from improvement of efficiency, reduction of cost, increase of internal control, interoperability. Harmonization also provide a good means of comparison of performance between different process variant. Harmonization also has the advantage of facilitating information among system and harmonization reduces process variability across the organization (Romero, et al., 2012).

In their study for the measure of process variation, Romero et al. (2015) used the term process harmonization as a necessity to consolidate various applications in the organization. It refers to the activity of designing and implementing business process standards across different units or regions to facilitate the benefits arising out of standardization and to ensure harmonious
acceptance of the new processes by the stakeholders. Romero et al. (2015) discuss the difference between process harmonization and standardization on its base of definition although both aims to implement process standards. Process standardization aims for uniformity of processes while harmonization refers to allow more variance in harmonious acceptance of the standards.

During the literature review, Romero, et al. (2015) identified two different conceptualization of process harmonization based on two opposite research streams. In one research stream, process harmonization is considered similar to process standardization across different regions, locations or units where local standards could be result of standardization efforts. In contrasting research streams, the differences are in goals between standardization and harmonization. In this streams of research, goals of process standardization are to achieve uniformity of process activities across value chains and across firm boundaries while goals of harmonization are alignment of similar process on the basis of focused business objectives. Romero et al. (2015) claimed on the basis of analysis of two research streams that standardization and harmonization are similar concepts but differs only with respect to their focus (standardization focusses on unification of the processes and harmonization focus on the trade-off between global unification and local variation) (Romero, et al., 2015).

In a report on the two common approaches, Richen and Steinhorst (2005) concluded that there is a need for both standardization and harmonization. Richen and Steinhorst (2005) defined standardization as a means of creating uniform business processes across the various divisions or locations of the organization. Harmonization on the other hand is the means of looking for differences between standards and setting bounds to the degree of the variation. Both approaches are found to be performance driven and focused on continual improvement. Richen and Steinhorst (2005) concluded that the balanced combination of both standardization and harmonization would greatly improve the performance, reduce the cost for maintenance and will enable the senior management to have more control over the operation. The usage of harmonization would help to avoid the one size fits all approach that will help to make the trade-off between too many or too few standards and avoiding inconsistencies between standards (Ricken & Steinhorst, 2005).
2.8 User Acceptance and System Usability

User acceptance is considered as a pivotal factor for the success or failure of a system. The return on the investment on the system cannot be realized by organizations unless the system is being used by the intended users (Yi & Hwang, 2003). Lack of user acceptance have been found as a major reason why various enterprise systems have been underutilized or abandoned (Yi & Hwang, 2003). Technology Acceptance Model (TAM) is a major model that is widely used to research the acceptance of the system and is considered as one of the most popular models that is used to predict the use and acceptance of a system by users in the information systems community (Surendran, 2012; Lee, et al., 2003).

According to the TAM model developed by Davis & Venkatesh (1995) shown in Figure 3, there are two main factors that are perceived usefulness (PU) and perceived ease of use (PEOU). PU is defined as the subjective probability of the user in using a specific application system to enhance his or her job or life performance (Davis & Venkatesh, 1995; Davis, 1993). PEOU is defined as the degree to which the user would expect the system to be easy to use (Davis & Venkatesh, 1995) (Davis, 1993). According to TAM, PU and PEOU are determinants of the functions for the attitude towards using (ATU) system which further in combination with PU influence behavioural intention to use (BIU) the system. BIU further determines actual system usage (ASU) of the system which is considered as a measure for the user acceptance of the system. (Davis & Venkatesh, 1995; Davis, 1993). The two factors PU and PEOU are influenced by external variables according to TAM. The main external factors are social factors (language, skills, facilitating conditions), cultural factors and political factors (Davis & Venkatesh, 1995).

Hubona and Whisenand (1995) in their efforts to affirm the validity of the TAM model did reaffirm the basic validity of the TAM module and its usefulness in predicting the user behaviour and acceptance of the model. However, their findings also concluded that the predictions could be enhanced by exploring the issue of influence of the external variables. (Hubona & Whisenand, 1995)

According to some studies, it has been reported that many projects on software systems (involving systems like enterprise resource planning and information system) have not achieved their expected significant benefits because of the problems related to the complexity of the user interface and poor usability of the system (Ceaparu, et al., 2004; Singh & Wesson, 2009; Wai-
Peng, et al., 2015). Complex functions and interfaces were found to hinder the successful implementation of the system as it caused the user to lose interest in the system (Gumussoy, et al., 2007). Further, some studies concluded that low usability and low user acceptance can lead to the failure of a software system implementation (Al-Jabri & Roztocki, 2014; Soto-Acosta, et al., 2013).

Figure 3: TAM Model (Davis and Venkatesh, 1995)

Usability of software systems, considered as a typical issue, has been widely studied over the last decade to find out how to make systems more effective and usable (Bicevskis & Bicevska, 2015). Usability of the system is considered an important factor that affect a system acceptance directly (Xiao-jun, et al., 2017; Bicevskis & Bicevska, 2015). ISO 9241-210(2010) defines usability as “the extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use” (ISO 9241-210, 2010).

In attempt to investigate the impact of usability on the technology acceptance of the system, Scholtz, et al (2016) found usability directly influences PU and PEOU as shown in figure 4. PEOU directly further influences PU which in turn influence ATU of a system. ATU of a system further influence BIU of the system (Scholtz, et al., 2016).

Lauesen and Younessi (1998) listed five major usability factors during their study on styles of usability requirements. First factor is ease of learning which states that the system must be easy to learn for all kind of users including both beginners and experienced users. Second, task
efficiency which states that the system must be efficient. Third, ease of remembering which states that the system must be easy to remember. Fourth, understandability that states that the system must be designed in a way that user must understand what the system does. Fifth, satisfaction which implies that the user must have satisfaction with the system after using it (Lauesen & Younessi, 1998).

Scott (2008) evaluated the four dimensions of usability using questionnaire for usability assessment as navigation, presentation, learnability and task support. Scott (2008) mention navigation as methods by which the users move around in a system. Presentation needs to be effective with the usage of good graphic design principles ensuring that the users are not distracted from their primary task (Scott, 2008). Organized and structure presentation facilitates ease of usage of the system. Learnability is considered as an important issue for usability (Scott, 2008). It is also specified that the terminology should use the language of the users as unnecessary technical jargon and confusing acronym can deter learning. Scott (2008) states learnability as how easy the system can be learned so that the user can perform their work effectively and efficiently. Concise user manuals are also considered to be important as too many details would hinder learning because of frustration and stress from information overload (Scott, 2008). Task support is another construct which is important for usability (Scott, 2008). Task support defines the capability of the system to help the users to perform their work efficiently, effectively and economically (Scott, 2008).
During the review of the related research work on usability, Singh and Wesson (2009) listed some common usability criteria such as ease of use, usefulness, task support, navigation, guidance, flexibility, customization, learnability, memorability, accuracy completeness, reliability, responsiveness, presentation (Singh & Wesson, 2009). These common criteria were divided into six main base criteria. Further, Singh and Wesson (2009) concluded that the major usability criteria through heuristic evaluation that needs to be focused on are navigation, learnability, task support, presentation and customization as shown in Figure 5.

Figure 5: Factors of Usability (Scott, 2008) (Singh & Wesson, 2009)

2.9 User Satisfaction and System Quality

User satisfaction is concluded by many studies (Tsai, et al., 2012; Mardiana, et al., 2015) as one the most important factors when addressing the success of a system. Many researchers have dedicated their studies to examine user satisfactions to show the complexity of user satisfaction to the extent how some group of users in the same organization could be more or less enthusiastic than others in terms of usage of the system that could lead to the success and failure of the system (Elbanna, 2007; Cerpa & Verner, 2009; Dwivedi, et al., 2015). In some studies (Bradford & Florin, 2003; Wang, et al., 2008; Ram, et al., 2015), user satisfaction have also been utilized as an important indicator to illustrate the effectiveness of the system contributing to the success of the system.
Delone and McLean (DM) model is considered as one of the valuable frameworks that have been used to understand the success of a system. On review of the research in the field of system success during the period of 1981-1990, Delone and Mclean (1992) identified six variables for measuring the success of the system: System quality, information quality, use, user satisfaction, individual impact and organization impact. These six variables were found to be interdependent on each other. Figure 6 shows this original devised by DeLone and McLean (DeLone & McLean, 1992).

![Figure 6: DeLone and McLean IS success Model (DeLone & McLean, 1992)](image)

After the publication of the DM success model, many authors proposed modifications and called for further validation and developments. Pitt et al.(1995) evaluated the model and suggested the construct of service quality to be added to the model (Pitt, et al., 1995). Seddon and Kiew (1996) in their study on the portion of the model modified the construct use and introduced the terminology of usefulness which was correlated to the perceived usefulness in the TAM model by Davis (1995) (Seddon & Kiew, 1996). Based on proposed modifications over the period of ten years, DeLone and Mclean (2003) in their follow up study further updated the model revised the DM model and added service quality as a construct. They further stated that increased user satisfaction would lead to higher intention of use of the system and will affect the system usage (DeLone & McLean, 2003). Figure 7 shows the updated revised model.
Many studies (Chien & Tsaur, 2007; Gorla, et al., 2010; Tsai, et al., 2012; Sternad & Bobek, 2013; Rajan & Baral, 2015) found system quality to have strong influence on the success of the system. Tsai et al. (2012) concluded that system quality has the strongest impact on user satisfaction among all the other factors. This was also validated in the study by Costa et al. (2016) to find the key determinants to user satisfaction. The research model on user satisfaction was based on DM success model (2003) and their study identified three important constructs of user satisfaction as top management support, training and system quality. Costa et al. (2016) concluded that system quality has a significant influence on the behavioural intention to use and overall user satisfaction of the system (Costa, et al., 2016).

DeLone and McLean identified that system quality is measured by attributes such as ease of use, functionality, reliability, data quality, flexibility, and integration (DeLone and McLean, 2003). During the literature review of the study to find the antecedents of system quality, Nelson et al. (2005) identified five key dimensions to system quality. The five key dimensions are accessibility, reliability, flexibility, response time and integration as shown in Figure 8 (Nelson, et al., 2005). According to Nelson et al. (2005) accessibility and reliability are related more to system dimensions and the three other dimensions are more related to task dimensions of the system. In attempt to theoretically integrate user satisfaction and technology acceptance, Wixom and Todd (2005) found that reliability, flexibility, integration and accessibility are significant determinants of system quality. Reliability, flexibility and integration accounted for 74 percent of the variance in system quality (Wixom & Todd, 2005). These findings were validated by the study (Forsgren, et al., 2016) which found the core system quality constructs.
(reliability, flexibility, integration, and accessibility) to be significant relevant. However, timeliness, which was not significant in the Wixom and Todd (2005) study was found to be relevant. In the recent study (Forsgren, et al., 2016), flexibility was found to be important because of the dynamic nature of task required to be done by the system.

The following defines the five key determinants:
- **Accessibility** is the degree of to which system and the information contained in the system can be accessed with less effort (Nelson, et al., 2005).
- **Reliability** is defined as the dependability of the system over time (Nelson, et al., 2005).
- **Flexibility** is the degree to which a system can adapt to the variants of user needs and the changing environment (Nelson, et al., 2005).
- **Integration** is the degree to which the system facilitates the combination of information from different sources and different application in the system (Nelson, et al., 2005).
- **Timeliness** or **Response time** is the degree to which the system provides responses to request for the information or an action by the users (Nelson, et al., 2005).

![Figure 8: Five core constructs of System Quality (Costa, et al., 2016) (Wixom & Todd, 2005) (Nelson, et al., 2005)]

### 2.10 Theoretical Framework

Based on the review of the existing literature in both cultural and system aspects, factors relevant to management system and that which could contribute to business excellence were identified, categorized and depicted as illustrated in Figure 9.
Theoretical Framework for factors relevant to Management System

**Cultural**
- Leadership
- Strategy
- People
- Process

**System**
- Integration
- Standardization and Harmonization
- Usability
- System Quality

*Figure 9: Theoretical Framework*
3 METHODOLOGY

The following section describes the methodology that has been used for conducting the research. It begins with the overview of the thesis followed by perspective of the authors in conducting the thesis and the approach of the study that was adopted. It describes the research design that was selected and explains the reasons for selecting the research methods used. Further, it describes the different types of data collections methods that were used. Additionally, it presents the method of analysis and conclusion of the data in the study. In the end of the section, the quality and ethical aspects of the research study were discussed.

3.1 Thesis Overview

The thesis was done during the time frame of 24 weeks with the researchers spending 11 weeks at Veoneer’s Vårgårda office. The structure of the thesis can be divided into two main phases. The first phase was a theoretical phase that consisted of a literature study to gather and analyse data related to the topic of factors that led to success and failures of management system and business excellence model. The second phase dealt with the analysis of the findings from the literature study, analysis from benchmarking study of the management system in three organizations from different sectors that have used excellence model (EFQM) and the analysis of qualitative data from the interviews of the participants who are working at Veoneer Sweden AB. The analysis was followed by recommendations of factors for an organization to consider during the design and implementation of the management system with the purpose of achieving business excellence.

3.2 General Research Approach and Perspective

The research study was aimed at finding out the factors that were necessary for a management system to achieve business excellence. The research study approach was an explorative qualitative approach that was based on the needs and views about the management system for the participant within various departments of Veoneer who have used the existing management system. The study followed abductive approach by which the current state of the management system was analysed, possible factors that could benefit the management system were identified from literature review and existing theoretical research work and validated with the views of the users of the management system at Veoneer, who would be using the system and findings
from the collaborative benchmarking study of three companies that have achieved business excellence using the excellence model.

Qualitative research differs from quantitative research in terms of how one sees the world or reality as not fixed or single, or how it is not a measurable phenomenon that is assumed in case of quantitative research (Bryman & Bell, 2011; Kothari, 2004). Qualitative researches are method of understanding the multiple constructions and interpretations of reality at a point of time and context (Kothari, 2004). Qualitative approach was selected for this study as qualitative research was considered to be an important type of research aiming at discovering the underlying motives, desires and to analyse various factors which motivated people to behave in a definite manner or make people like or dislike something (Kothari, 2004).

The research approach for this study being of the qualitative nature was based on the impact of having a human instrument which has its advantages and disadvantages (Merriam, 2002). The advantages of having a human instrument in understanding the goal of the qualitative research is that it is an ideal means of collecting and analysing data (Merriam, 2002). It also allowed the researchers to expand the understanding through non-verbal and verbal communication, immediate processing of information (data), clarification and summarization of materials, checking for accuracy with the respondents for interpretation, exploration of unusual or unanticipated responses (Merriam, 2002). On the contrary, it also had some shortcomings, and possibility of biases which may influence the study results (Merriam, 2002).

When conducting research, it should be clear from whose point of view the problem is tackled as we all have different perceptions of events and circumstances that surround us. Moreover, it should be noted that “reality” is a social construction, a concept that is created by people and is a human product. Perception of this “reality” depends on who is asking the questions and who is answering them.

Since this research studies management system and its factors that could lead to it business excellence, the obvious choice of perspective is the managerial and user perspective. The informants who present their points of view are senior managers, managers, heads of different departments and end-users of management systems within Veoneer.
3.3 Research Design

Research design gives the framework for the collection and analysis of data (Bryman & Bell, 2011). The selected design for this thesis is case study design which entails the detailed and intensive analysis of a single case which is the study of the management system in Veoneer. Case study design can be distinguished from other research design in terms of boundary of the situation, which is the boundary of Veoneer here (Bryman & Bell, 2011). It is suggested that from case study, insights can be identified for the study from various methods of data collection such as semi structured interviews and document by qualitative analysis (Bryman & Bell, 2011).

The selection of case/cases should be based first and foremost on the anticipation of the opportunity to learn (Bryman & Bell, 2011). This is one of the reasons why Veoneer was selected, due to good learning opportunities, since the company was in the process of having a management system and faced the problem due to presence of several systems. This study also can be further distinguished as intrinsic (Bryman & Bell, 2011) as the study was undertaken to primarily gain insight into the situation of the organization with several management systems. The findings from the study could have been further strengthened, if a multiple case study was done involving more organizations.

3.4 Research Strategy

The research was initiated with the exploration of the problems and to get a clear understanding of the situation in the organization. The first stage of the study is the identification of the problem that is perceived in the current practice which provides the motivation for the formulation of the research study (Sein, et al., 2011). The input for this stage was collected from the preliminary literature review of the research work that has been done in the field of the management system and the inputs from the supervisor at Veoneer. Hevner, et al. (2004) states that in the stage of problem formulation, the research opportunity is identified and conceptualized on existing theories and technologies (Hevner, et al., 2004; Jacobs, 1997; Merriam & Simpson, 2000). Formulation of the problem is the first step in this study which was done to get a greater clarity of the research intent and increased meaningfulness of the results as stated by Rocco & Hatcher (2011). Thereafter, the research question was decided based on the outcome of the problem formulation. This was followed by review of significant literature within the research area of management system, information system, ERP systems,
business excellence models. The research instruments were further identified to collect the data related to the research subjects. The third steps consist of identification of data collection methods. In this research study, benchmarking and interview were considered as methods of data collection and were done in parallel steps. There is a major limitation in the data collected from the benchmarking study. The inability to access management systems of the three benchmarked organisations led to the factors related to the system dimension not to be included in this study. Questions for the interviews were based on the literature review. The results from the primary data collected were analysed and compared with the data collected from the literature review to identify the success factors in the management system that needs to be considered. Further, some conclusions were drawn based on the results associated to the research questions.

![Research Strategy Chart](image)

Figure 10: Research Strategy Chart

### 3.5 Data Collection Methods

Data collection methods included two types of data that were collected, primary and secondary data. Secondary data was collected through the literature review of the existing research works done in the field of the research study. The primary data includes culture-based data collected from the benchmarking study of three organizations for the factors that had led to their success in achieving business excellence and from the interviews of the people from various department who have been using the current management systems that exist in Veoneer.

#### 3.5.1 Literature Review

Literature review includes critical analysis of the relevant research and non-research literature on the topic being studied. In this study the narrative approach of literature review was adopted as the primary purpose was to gather a comprehensive background to understand the current existing knowledge in the field of the research study and to identify gaps to help the researchers to define the research question. The process is a feedback-based as mentioned by Beecroft et al (2006) because a sufficiently focused research question was deemed essential before undertaking the literature review and equally the literature review also helped refine or focus a
broad research question (Beecroft, et al., 2006). Google Scholar and Uppsala University Library Services were the domains which were used to search for the literature. It was noted that attention was paid towards accurate use of terminology in terms of using keywords to search for the literature.

3.5.2 Benchmarking

Benchmarking is considered as a process of identifying the standards of excellence for products, services or processes also commonly referred as "best practices" (Elmuti & Kathawala, 1997). The method of benchmarking is considered as one of the important tools to identify the present situation and helps to cover the gap between where the present situation is and where it would like to be (Mathai, 2014). In this study, this method is used to identify the factors among three different organizations that have been found to be relevant and considered most effective to their success in driving the excellence program.

According to Fong et al. (1998), the benchmarking study can be classified under three criteria which are nature of referent, content of benchmarking and the purpose of the relationship (Fong, et al., 1998). Since the research study is based on an explorative study method, the nature of referent is selected as global organisations from different geographical locations and from different industry sectors. The content of the benchmarking involves all culture-based factors that have contributed to the success of the organization that are related to management system and business excellence. The purpose for the relationship is collaborative as the study is undertaken for development of the learning atmosphere and sharing of knowledge.

The steps for the benchmarking study comprise of four steps. Step 1 involves identification of the benchmarking subject which is factors in management system that contributed to business excellence. Step 2 involves selection of organization for the comparative study from different geographical locations and different industry. Step 3 involves determination of the data collection method. The data are collected from the reports published on their achievements in business excellence from the organization that have been selected for the study. Step 4 involves the comparative analysis of the data and listing out of the main factors that have contributed to their success in driving the excellence program at each organization.
3.5.3 Interviews

The method of qualitative interviewing was adopted for this study as it is considered a flexible and powerful tool to capture the experience of people by their own interpretation and conclusion (Rabionet, 2011). Hopf (2004) also stated that qualitative interviews are related closely to approaches of interpretative sociology as it gives the possibility of enquiring openly about situational meanings and motives for actions, self-interpretations of the respondents in a differentiated and open way, possibility of discursive understanding through interpretations of the interviews and opportunity for empirical application of action theory ideas. It provided the opportunity for evaluation of validity of the respondent’s answer by observing the verbal and non-verbal indicators and to ensure that all the questions are answered by each respondent (Bailey, 1987). The method of qualitative interviewing also aided in ensuring that there is no external influence in the respondent’s answer (Bailey, 1987).

3.5.3.1 Semi-Structured Interviews

Structured interview often produces quantitative data (Crabtree & DiCicco-Bloom, 2006) which is not an ideal choice for a qualitative study. Similarly, Unstructured interview is not recommended because of its conjunction with collection of observational data (Crabtree & DiCicco-Bloom, 2006). Semi-structured interviews are thus considered the most widely used interviewing format for qualitative research study (Crabtree & DiCicco-Bloom, 2006). In this research study, semi-structured interview method was selected because of its advantages over the other methods in case of qualitative research study.

Semi-structured interviews mainly contain several key questions that define the area that is being explored, and it makes it possible for the interviewer or interviewee to diverge from the main path in the purpose of pursuing an idea or response developed during the interview in details (Gill, et al., 2008). The advantage of data collection involving semi-structured interviewing is that it encourages respondents to go into areas that is not covered in the interview schedule, it enables to identify new themes that has not been identified during the existing literature review (Bryman & Bell, 2011). It also allows the interviewer to pick up on things said by the interviewee or ask lead on questions corresponding to responses of the interviewee.
The first step of this method for this study was the preparation of the interview guide containing the list of questions prepared by the researcher on the specific topics that is to be covered. It must be noted that in this method, interviewees can have a great deal of leeway in replying to the questions (Bryman & Bell, 2011). The interview guide prepared was designed in such a way that it contained the questions that would likely yield more information about the topic of the study as possible along with addressing the aim and objectives of the research (Gill, et al., 2008). The questions were kept open-ended, neutral, sensitive and easily understandable (Gill, et al., 2008). The researcher followed the most comfortable way of questions’ order as stated by Gill et al (2008) by asking the questions that are easily answerable in the beginning before proceeding to the difficult and sensitive topics (Gill, et al., 2008).

3.5.3.2 Sampling

The selection of respondents was chosen through purposive sampling (Bryman & Bell, 2011) with the help from the supervisor at the organization based on their likely ability to contribute to the understanding of usage and benefits of the management systems. The people that were selected were involved in decision making and measuring their success in their respective departments. The respondents were selected with the help of supervisor, so that brings the possible element of bias (Bryman & Bell, 2011) as the respondents were not selected randomly. The respondents were chosen as they are already involved in using the management system and thought to have opinions that could benefit the study.

![Figure 11: Respondent Duration of Employment and Gender Data](image)

The interview sample represented users of the existing management systems at Veoneer. Among 14 respondents (3 females and 11 males), 12 of them holds the position of manager or leader at their respective departments, 1 of them is consultant, and 1 of them is co-ordinator. The respondents were selected from four different locations or sites of Veoneer. Nine of the
respondents are from Vårgåda, three from Linköping, one from Skellefteå and one from Stockholm. The duration of the employment of all the respondents at the organization was taken note of. Veoneer is a spin-off organization from the parent organization Autoliv and after the spin-off, the management systems of Autoliv are being still currently used. Hence the experience of the respondents at Autoliv was also considered. The duration was classified into three terms namely short term (0 to 2 years), middle term (3 to 10 years) and long term (more than 10 years). The interview sample however lacks the prospect of a gender balance sample.

The interviews were conducted face to face and Skype using the help of the interview guide. The respondents were asked to inform about their personal perceptions and reflections of the mission and vision of Veoneer. Further, to gain a deeper insight and gauge the current state of the management systems, the respondents were asked about the problems that they face in using the existing management system and solutions that could be implemented or have been implemented to solve the problems. In order to avoid the element of bias that may result from potentially leading questions, the questions were formulated open ended covering the area of the study. Few respondents were not located in Vårgåda and interviews were conducted through skype (without video) as it is an effective and economical way. However, it does have the disadvantage of not being able to incorporate the visual aids and prompts of the respondents during the analysis of the interviews (Bryman & Bell, 2011). The interviews were recorded and lasted between 35 minutes and 55 minutes. Appendix I illustrates

3.6 Data Interpretation, Analysis and Findings

The primary data collected through benchmarking of the three organization was collected through review of studies that were based on the success of excellence program in the three organization. The factors that were found relevant to their success were identified by both the authors separately and then then were discussed in a session meeting so that no relevant data is missed out because of individual perspective. These factors were coded into themes categorized on the basis of categories identified in the theoretical framework of the study; leadership, strategy, people, process. Due to the limitation of confidentiality and unavailability of the information or data on the management system in this three organizations, the categories of integration, standardization, accessibility and usability were not included in this data.

The primary data collected through 14 semi-structured interviews were recorded and transcribed. This helped to compare data between respondents in the data analysis. The
transcripts were thoroughly read through to obtain understanding of each individual respondents about their perspective on the current state of the management system in Veoneer and also the future needs in the management system. Further these all findings were coded into themes by both the authors separately and then were discussed in a session meeting so that no relevant data is missed out because of individual perspective. The identified themes were further sorted according to categories identified in the theoretical framework of the study; leadership, strategy, people, process, integration, standardization, accessibility and usability. Sorting data on the basis of identified themes according to the theoretical framework of the study is a good method for finding corresponding categories or categories that are in other ways related to the topic of the study (Chowdhury, 2015).

The empirical findings from these two forms of primary data were first presented thematically and then combined together and presented in the summary at the end of the empirical section. Afterwards, they were analysed together with the findings of literature review to validate the relevance of these factors in the management system to establish the link between theoretical concepts and presented empirical findings. This was followed by linking of each factor to the core themes of business excellence to establish the contribution of these factors in the management system to business excellence.

3.7 Quality of Research

To evaluate authenticity and trustworthiness of research, the following four criteria for evaluating qualitative research were considered: credibility, confirmability, dependability and transferability (Guba & S., 1994).

By providing the research participants with the final finding to ensure the research findings corresponded to the use-case scenario of the participants, the issue of credibility was dealt with. This process is also known as respondent validation (Bryman & Bell, 2011). Credibility was further strengthened by the benchmarking process of successful cases of business excellence across multiple industries which had achieved business excellence. The diversity in the selection of companies from different industries to benchmark can further strengthen the case of transferability. This means that they are generalised to a higher degree. Due to the fact that the research, data collection and analysis was conducted by two people, the case of credibility and confirmability is further strengthened. This minimises the risk of a single researcher’s belief
dictating the research. The replication of research and the ability to re-conduct the similar research to find a replication in the conclusion is concerned with dependability. By providing a step-by-step explanation on the methods of conducting the research, this criterion is upheld (Bryman & Bell, 2011). A broad literature review consisting of several peer reviewer journals across a broad timespan has been used in order to avoid subjectivity. Clear arguments for the selection of criteria and benchmarking companies have been provided, which provides for authenticity of research.

3.8 Ethical Principles

The research was conducted in a manner to minimise the risk of harm to any of the participants of the study. Informed Consent was taken from all the participants wherein they were informed about how the research would be conducted, and the purpose of the research before engaging in interviews (Bryman & Bell, 2011). Participants, thereby, were provided with ample information to reconsider their decisions, in the case of level of transparency or non-alignment with their roles which the research demanded. To ensure no unjust portrayals and misunderstandings occurred during the interviews, participants were provided with the opportunity to inspect a draft of the final thesis before public publishing. To prevent invasion of privacy, participants were informed to answer all questions to the best of their use-case, knowledge and ability and were informed that they were free to avoiding any questions that invaded their privacy. In the beginning of every interview, participants were asked for the consent to be recorded. Permissions were given under the condition that the material would be used solely for the purpose of this research and the recordings would not be passed on without participants’ consent. To avoid deception, no information about the research was intentionally withheld from the participants and adequate level of transparency was provided to the participants at every level (Bryman & Bell, 2011).
4 EMPIRICAL FINDINGS

Empirical findings for this research work was collected in two ways, first through benchmarking with companies which have achieved business excellence prescribing the EFQM Model, the second is through semi-structured interviews with various employees at Veoneer Sweden AB. The following section is divided into two sections, the first section deals with the findings of the benchmarking study which are concluded with summary table at the end. The next section deals with the findings of the interviews of the respondents at Veoneer. This was followed by a summarized table at the end of the section that depicts the empirical findings of the common themes that were found in both primary data; the benchmarking study of the three organizations that have achieved business excellence and codified interviews of respondents at Veoneer.

4.1 Benchmarking

The benchmarking study provides an important reference for the success factors in any sectors to better understand the current success factors that contribute to the success of the organizations in achieving business excellence through excellence program. The criteria that are selected for the comparative study are the major enablers that are listed from the EFQM excellence model which are Leadership, People, Strategy, Resources, Processes.

The three organizations that were selected for the study was Phillips, Ericsson Nikola Tesla (ETK) and Istanbul public transport (IETT). The three organizations are from the sectors of consumer electronics, telecommunication equipment, and transport services. All the organizations were found to have implemented EFQM excellence model and have achieved business results through the implementation over the period (ETK, 2002; Canitez, et al., 2016; Tossiant, 2010). The findings from the benchmarking are categorized under the four major criteria- leadership, strategy, process and people that were identified in the theoretical framework during the literature review. Table 3 summarizes the findings of the benchmarking of the three organizations.
4.1.1 Leadership

In all three organizations, high involvement of top management was found to be effective in driving the excellence program and was found to be a critical factor for their success. In Phillips, leadership was found to be strongly structured around the strategic goals and operational targets that are deployed from the top management to each organization levels as well as to individual employee level. Leaders of the organization were found to intensively communicate the strategy, goals and targets to all the employee during meetings (Tossiant, 2010). There was also information exchange between individual employee and leaders on improvement, competitive advantage, and learnings from mistakes (Tossiant, 2010). Similarly, in ETK and IETT, leaders were found to be highly involved in the management system of the organization through various activities. In ETK, leaders were found to observe three main values (professionalism, respect and perseverance) in making the organization more efficient. The company direction which they termed as Ericsson strategic planning was communicated to all employee through the management system and when reviewed, average score of 73 % was recorded according to their review system DIALOG (ETK, 2002). IETT too strongly believed in the fact that for excellent organizations, leaders can shape the future with their actions and can acts as role models for its values, ethics and thus they would be able to inspire trust to all the stakeholders. This led them to define leaders as persons who will act according to the vision and strategies of the organization and would be able to thoroughly put the team goals forth, share rationales of the goals and mobilize the team towards the goals and would be able to achieve the result (Canitez, et al., 2016).

IETT highly depended on the fact that leaders are one of the critical factors to carry out the transformation within the company and would be highly influential in meeting the demands of the stakeholders. This can also be termed as effective leadership which is considered as an important factor in achieving business excellence (Canitez, et al., 2016). Motivation of employee by leaders is another important factor that was seen in all the three organization as their task to motivate their employee by establishment of a strong efficient and effective communication channel between leaders and the employee. Further, use of various tools to assess the leadership skills was also observed in all the three organizations (Canitez, et al., 2016; Tossiant, 2010; ETK, 2002). In Phillips, management review system was found to be implemented to assess the leadership skills and capabilities of the leader (Tossiant, 2010). This was also found in case of ETK where they used various tools like DIALOG, COMPASS, etc.
to assess the effectiveness of the leadership in the organization (ETK, 2002). In IETT however, mention of such assessment tool was not mentioned in the report (Canitez, et al., 2016).

4.1.2 Strategy

Creation of a clear vision and strategy was found to be common in all the three organizations and was ensured that they are effectively deployed and communicated to all level of the organizations and individual employee (Canitez, et al., 2016; ETK, 2002; Tossiant, 2010). In Phillips, a one-page strategy (with a clear vision and concrete strategic, operation targets) was implemented for easily communicating to all the employee and the method was found to be effective when it was assessed during their employee survey. ETK used the intranet and booklets to communicate their mission, values, objectives and strategies to their employee. In IETT, strategic plan preparation guide was used for development of its strategy according to their business targets and a cycle of assessment monitoring and reporting was implemented for its effectiveness. Process Development System (PDS) or individual targets were seen a single location where the strategic plans (linked with processes), mission, values, vision, performance program are consolidated before the implementation.

Assessment was found to be another important factor in strategy. In Phillips, self-assessment method was used to review the results achieved against the target. This was followed by peer assessment which helped in gaining learning experiences, best practices method, benchmarking. According to Phillips, cross fertilization (peer assessment) added a strong value and strengthened the synergy within the organizations and delivered input on new improvement initiatives. In ETK, periodic assessment and review of policies and strategies by comparison of achievements with planned results was found to be considered important. The assessment included risk-based assessment, management review, self-assessment which enabled them to continuously scan, evaluate and develop, modify and adjust their strategies based on the outcome of the assessment. Similarly, in IETT, assessment is found to be an integral part of the process of deployment of the strategy.

Two other factors which were found by the comparative study in all these three organization was the linkage of relationship between process and business results. Among other factors which were found to be important was the establishment of performance indicators or success factors that could be reviewed and shared for understanding of the employee and the
management as well. This also act as an enabler for the process of continual improvement and driving of the business excellence program that was implemented in the organizations.

4.1.3 People

In all the three organizations, strong emphasis was noted on the motivation of employee, skill development, work satisfaction, empowerment and reward of the employee (Canitez, et al., 2016; Tossiant, 2010; ETK, 2002). In Phillips, strong emphasis was given on creation of a caring and learning organization. People performance management system was used to guide and motivate their employee. Use of top manager or coach was used to train young high potential employee (Tossiant, 2010).

Alignment of individual performance to the objectives of the organization was considered as an important initiative in ETK. A global framework was set to connect the business objectives with team and individual goals and secure a feedback for fostering a high-performance culture (ETK, 2002). The support of involvement, innovative and creative behavior was noticed in ETK and IETT (ETK, 2002; Canitez, et al., 2016) which provided possible business opportunities and improvement initiatives for the organization.

Trainings were found to be another important factor which were given to employees to improve their capabilities and improve the process by analyzing and implementing solutions. In Philips, quality improvement team (QIT) training is noted as an important initiative related to this. Further an effective information and feedback communication channel was found to be important and necessary in all the three organization between employees and top management (Canitez, et al., 2016; ETK, 2002; Tossiant, 2010).

4.1.4 Processes

In all the three organisations, linking of process to business results and process improvements with business improvements were noted that contributed to their success (Canitez, et al., 2016; Tossiant, 2010; ETK, 2002). In Phillips, use of assessment, survey tools and initiative programs like QIT and black box was noted as a part of the effective re-engineering process. In ETK, major efforts were seen in outlining of the customer group and markets interfacing and their clear linkage with the process. In IETT also, it was seen a clear categorization of the process along with formation of value chain connecting input and output relation. In ETK, pragmatic
view of visualizing the needs for managing the business was one of the primary success factors. Further grading of the process as maturity grids was also seen as an important factor on a scale of 1 which is basic approach and 10 which is World Class Quality. There was another major factor which discusses about flexibility to some extent which was noticed in two organizations ETK and Phillips about the existent of a global framework for process description and a more detailed local description.

Table 3 summarises the empirical findings of the benchmarking study of the factors that has contributed to the success of the excellence program in all the three organizations. The detailed table illustrating the factors for each organisation could be referred from the Appendix II in which the factors were collaborated and presented together. It illustrates the cultural factors classified in to four major cultural factors categories (leadership, strategy, people, and process).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Factors</th>
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| Leadership | • Effective Leadership  
• Top management high involvement  
• Communication of strategy and goals to all employee.  
• Motivation of employee by effective communication.  
• Use of assessment, survey, improvement, leadership program for driving excellence. |
| Strategy   | • Sharing of strategy in one location  
• Clearly conveyance to all employee.  
• Efficient strategy deployment  
• Linking process to results  
• Periodic Assessment (Self & Peer)  
• Key Performance Indicator. |
| People     | • Strong emphasis on employee motivation, skills development, work satisfaction, empowerment and reward.  
• Employee Competence Matrix.  
• Alignment of individual objectives to organizational goals and targets.  
• Effective communication channels. |
| Process    | • Linkage of process and business results.  
• Use of tools and assessment methods to measure process effectiveness.  
• Pragmatic view of needs to be managed in business.  
• Clear definition and categorization of processes.  
• Detailed local description and a global framework for processes. |

*Table 2: Factors that contributed to the success of excellence program in the three benchmarked organisations*
4.2 Themes from Coding Interviews

The data collected from the interviews were coded to identify themes which were highlighted by the respondents. The themes reflected the criteria of a management system that respondents, employees of Veoneer, found to be important in the management system.

4.2.1 Leadership

At Veoneer, leadership existed at multiple levels, from managers within departments to the Chief Executive Officer (CEO) of the organisation. Each member in a leadership role contributed to the successful implementation of a new project by providing processes, clarity and guidance to the fellow members of an organisation who were using these processes individually. Veoneer depended on its leadership team to steer the organisation when there was ambiguity or undertaking of a new project or process.

Communication, from the leadership team, about the importance and usage of management systems in every day working was an important motivational factor for regular usage of a management system. Furthermore, communication from top management seemed to motivate the end users to accept, use and provide feedback of the management-system.

The involvement of top-management in the development of the management system was an important metric for adaption of the management system by the end users. End users found it important for top-management to draw links between departmental goals and the company’s vision. Furthermore, respondents found that involvement of top-management in the management system would help leaders of the organisation communicate the requirements of the management system better.

Veoneer Excellence System (VES) team in collaboration with the Quality department, was the project champion of the management system at Veoneer. It was the central leadership body in charge of the design, development, execution and feedback of the management system. This team played a key role in the development of the current management system and was central in the adoption of a management system across Veoneer. Other departments consulted with this team for developments and updates in the management system, respective to their department.
4.2.2 Strategy

The mission and vision of the organisation provided the employees with a long-term goal. These long term goals were broken down into actionable short-term goals customised to each department within Veoneer. Similarly, the mission and vision of the management system, which impacted all parts of the organisation, was required to have a mission and vision. This seemed to help all the affected stakeholders and members, to understand, comprehend and evaluate their current position and prepare and provide for the new.

The management system of an organisation provided a guidepost of protocols, procedures and plans. This included the mapping of procedure which were deemed to be important, regularly used and needed to be codified. Systems of such kind required the participation of all departments within an organisation to codify, firstly, the critical processes, secondly, the important inter-departmental and external processes, thirdly, the internal processes and lastly the individual work description and processes. For such a system to be implemented and used, it was deemed critical to have a mission and a vision. Furthermore, two of the respondents found this to be an important part of the company’s internal mission, for optimal usage of a management system. Global strategies and standards of the company, known as VS Standards upheld the quality of output and provided a framework of standards for local organisations to work and Key Performance Indicators (KPIs) measured the output across VS standards but there did not seem to be a visible link between the VS Standards and KPIs, which led to difficulty in measuring the output of strategies.

The organisation’s larger mission and vision was well communicated with all parts of the organisation. All respondents found the strategy to be either loosely or tightly linked to their job description although this link was not visible in the management system. This acted as a barrier to the usage of the management system in their respective daily workings.

“Localisation of Strategy”, as one of the respondents suggested was a good way of implementing the usage of management system in everyday functioning of the organisation. This level of localisation, furthermore, would help in harmonisation of global processes providing the flexibility of local cultures, processes and methods of working to be incorporated while barriers like language, state-policy and restrictions, law-related regulations to be taken into consideration.
4.2.3 Processes

A process described a certain way of working of single or several elements involved in the process. Veoneer had several hundreds of processes and several permutations and combination of those processes intra and inter-department. Each member of the organisation was involved in several processes in a day, some with visual process maps and some without. Processes, then, formed an important part of the everyday working of each member of the organisation. Every respondent was involved in several processes, on a daily basis and used some form of the management system. Three main profiles of management system users were derived; editors, administrators and end-users. Each of the respondent has either one or a combination of profiles in the scope of their daily work.

The management system consisted of all the processes, which existed within the organisation, on one single accessible platform, Vnet. Vnet was Veoneer’s intranet system which consisted of the current management system. This system served as an important system for providing procedures and documentation for all departments within the organisation. Since the system was openly accessible to anyone within the organisation, it provided documentation visible to all members who were logged into the company’s network infrastructure. Vnet provided extensive details, in the form of written documentation, about various process, providing short-cuts to most used processes and procedures.

Processes were also highly dependent on the industry and product, which the organisation is in and manufactures. As Veoneer manufactures and produces safety-related precision products, they produced both hardware and software technology. This added an additional layer of complexity in the process documentation. As highlighted by a few respondents, “hardware takes time, whereas software is more flexible”, systems and procedures which were dependent on hardware related departments often took longer to change processes and procedures, than systems and procedures in software-related departments. This was reflected in the time taken by hardware-related departments taking longer time to produce, document and codify processes as opposed to software-related departments. Departments which bridged these two sections, such as the Industrialisation department, often took the toll of delays, as they are required to streamline the flow of information, documentation and procedures within these two sections of Veoneer.
Processes tested the collaborations and communication between departments. These were especially tested when catering to the internal customers within a company. Often times, departments such as Human Resources, Finance and Maintenance departments were required to cater to internal customers within the organisation. For example, a recruitment process would require the hiring department and a Human Resource Business Partner to collaborate in writing processes from start to end. These collaborations, as highlighted by one of the respondents, was critical in acquiring the right talent, a failure in which could result in excess costs.

Veoneer, being a multi-national organisation, has process documentation from different manufacturing and technical sites. This added a layer of complexity with the issue of language barrier. In countries where English was not the common language used for documentation, translation services were required to translate this documents into English to better understand the process, the lack of which provided a gap in knowledge. Although this did not compromise the quality and output of the products and organisation, on the whole, it provided a gap in knowledge transfer and better adaptation to processes within the company. This introduced parallel ways of working within the organisation, at large. Parallel ways of working were time consuming processes for company-wide audits as it required additional documentation, overlapping of the current systems which costed the company both time and resources.

4.2.4 People
An organisation’s people are one of its, if not the most important asset. One of the ways of showcasing this was through education and continuous job-related trainings for its employees. It was also reflected in the initial training or induction programmes provided by an organisation to new employees. 12 out of the 14 respondents found education and continual improvement to be an important motivational factor contributing to their personal growth in the company.

Knowledge sharing was an important characteristic in the growth of an organisation. Knowledge gap led to delays, as an immediate effect and on the long term was anticipated to lead to delays in product lines, faults in test products and excess costs. Veoneer, an organisation which has undergone rapid change and growth under a short period, this resulted in a system of education and knowledge collection which was continually tested. With continuous hiring of new employees, came new knowledge and education, and this was found be challenging issue. As company procedures dictated, new employees were to be trained Veoneer’s standards and procedures. As there was a lack of initial training about Veoneer’s Management System and
awareness about VS and procedures, it led to a struggle in the finding the right knowledge and information about systems. Although this problem was solved through traditional methods of manager-employee discussions, the importance of education in Veoneer’s systems and standards was highlighted by several respondents.

Continuous education was an another important characteristic in the growth of people within an organisation. 4 respondents mentioned “continuous education” to be an important aspect in their usage of a management system. As systems get updated regularly, the importance of continuous education in management system provided a constant reminder of to keep up-to-date. This let to higher employee motivation and involvement in the usage of the management system, due to its automated and engaging nature. Employee motivation and involvement was found to be critical in the usage of any system, as systems were built for use and the lack of motivation to use the systems widened the gap between employee and the systems. Continuous education was linked to employee involvement and motivation as it made many of the respondents feel included in the developments of the organisation, hence providing a positive outlook in working with the organisation.

Culture was an another characteristic linked employee motivation and involvement in using the management system. “Management System as a way of working”, as one of the respondents mentioned, was an important cultural change which would help in building motivation to use the management system and increase involvement by employees. Just as the safety culture was promoted highly at Veoneer, the management system culture would motivate employees to use the system more often. Although this process was indicated to be more time-consuming, it was anticipated help the organisation benefit from the long-term effects of using a management system.

At Veoneer, education took place within various departments at a micro-level. Several respondents, who were managers took the initiative within their respective departments to provide training and schedule large group meetings to share information and gain feedback respective to their departments. These micro-level systems helped employees gain clarity of the information and system within their departments. A system of “check box” was introduced, was an earlier process within a department, wherein the entire hierarchy of the department had to check the box once the relevant information was received, shared with their teams and
Although the respondent said the system worked well at micro-levels, it would be hard at a company-wide level. It would require different systems for different divisions and departments, each with a similar principle.

4.2.5 Integration

Management systems are complex systems with multiple elements. The complexity of management systems varied according to the number of teams, groups, and departments within the organization. Large organizations found it important to have a management system that integrated all organizational systems into a single unified system. VNet, Veoneer’s intranet portal, currently contains Veoneer’s integrated management system. This system integrated several elements of the current management system into a single unified platform but still lacked complete unification of all systems used at Veoneer. The lack of integration caused delays and disruptions in knowledge sharing and depended on human involvement and decisions. Systems were implemented to share information globally, but the implementation lacked standardization, leading to inconsistent practices and local reporting. These local practices were followed by all departments and localities across the organization. The VES was a mark of high safety and quality standards developed and functioned as a global standard with which every department had to adhere.

The VES Standards, acted as a global standard, within which every department had to design and benchmark. This process seemed to be inefficient and time-consuming.

Work quicker, reduce delays, and improve the overall process. Timely information and benchmarking are crucial in the standards provided by the author. The need for an integrated system emerged from the lack of a single unified platform. The lack of integration led to delays in local systems, affecting the overall performance of the organization.

Integration is essential to ensure smooth functioning of different systems and departments. Although the respondent said the system worked well at micro-levels, the lack of integration at a company-wide level would hinder the overall performance of the organization.
Knowledge sharing and knowledge management seemed to be one of the key elements of an integrated management system’s requirement. For a global organisation, departments within one geography could experiment, test and run processes and similar departments around the world could learn from the learnings. This seemed to be a set-back in the current system available at Veoneer and one the respondents found it to be important for best practises. One technical site within Veoneer currently used a visual process map, flow charts with integration of tasks and standards, which drew attention and interest from several other sites for the implementation of a similar process for their respective departments. While good systems are currently available within different sites within the organisation, these systems are adapted to the localised department and retrofitted to the department’s needs.

A unified system of systems and standards also would result in “sharing of similar challenges and problems” as one respondent mentioned. This seemed to help departments work closely together and share successful ideas and best practises in other parts of the organisation and use them. Furthermore, the integration of systems would encourage limited usage of information being transferred through traditional means of communication i.e. email, personal appointments and phone calls. Since there was no time-restriction of systems being online, users of the system could access any information they wanted at any time, removing the time-restrictive personnel methods.

4.2.6 Standardisation
Standards are an important part of the organisation. The VS Standards were reflective of Veoneer’s focus on quality, safety and customer focus. These routines and procedures were used in every day operations within various departments. Due to the large size of Veoneer, there seemed to be a lack of consistency with the various systems and processes of the organisation. Multiple departments within multiple locations localised processes and systems to improve their local efficiency, keeping the VS Standards as a framework. These systems worked efficiently standalone, they did not provide a standard for cross-functional utility. This caused disruptions when cross-functional utilisation of systems and information, internal audit and internal benchmarking were conducted.

Different ways of working, as one respondent mentioned caused delays in information transfer, which can cascade to various levels of decision making, costing the organisation time and
resources. This seemed to a challenge with cross-functional global organisations as the lack of system standards handicapped the organisation’s ability to use best practises from within the different departments of the organisation. It played an important role with vendors and supplier processes of the organisation, that is the currently standardised.

4.2.7 Accessibility

One of the important metrics of a good system and process is the accessibility of the system to the user. VNet, which contained Veoneer’s management system was available to all Veoneer’s employees. This availability of information seemed to be critical for several respondents as it served as a point of information for various processes and personnel. Although the information was accessible, the format of the information made it very difficult and time-consuming for many users to retrieve the required data. Documentation and information in a file-format was found be very tedious and exhausting to use.

Accessibility of critical information based on the job role seemed to be a feature that eight of the respondents found to be encouraging them to use the system more regularly. Information available in visual formats, like visual process maps found more appeal among the respondents, encouraging them to refer and use the system regularly for reference and work. Distilling further, ease of accessibility of a system through visual indicators, prominence of displayed information and personalisation of information based on job role were key factors is a system being used more often by the end-users.

The administration of the system, with administrative rights and upgrades being handled internally, encouraged system administrators to make the system more accessible to its users. From past experience, the administration of the system was handled externally which resulted in dependency on the external consultants for upgrades and changes. The internal control of the administrative rights would also increase the speed of the upgrades of the system, thus adapting to change within the organisation quickly.

4.2.8 Usability

A good system would be used frequently by its end-user and that indicated the success of a management system. While the features of a good system were subjective to each respondent’s usage of a management system, regularity of usage and dependency on the system, a majority of the respondents agreed to interactive and visual process maps to be an important their daily
work and usage of the system. Visual process maps were said to be easily understood during meetings and more efficient than text data.

The aggregation of all routines, process documentation and systems in a single system would encourage the users to use the system to look for all required information. Currently, certain information may not be available and repeated exposure to the lack of available information in a single place discouraged the users from using the system altogether. The aggregation of information into a digital system was predicated to reduce the existence of manual systems which were currently used within departments, also encouraging cross-functionality. A digital system would also provide the option of remote accessibility to all users of the management system. As remote accessibility was a lack in the current system, system users who were travelling constantly found it difficult to use the management system, hence relying on downloaded information or digital copies of the same, which could be subject to change.

Highlighting the usage of management system through education, awareness and training seemed to be important in the complete utilisation of features of the management system. The lack of awareness in different departments at different levels hindered the usage of the current system. This awareness was further linked to the connection to work. A stronger connection between the management system and job roles encourage users to use the system regularly and providing feedback to the system designers. This usage and feedback would help process and system designers to build systems and processes with the end-user in mind. Without the feedback, the system would be redundant, as one of the respondents highlighted encouraging systems and processes be build the users in mind.

4.2.9 Summary of Empirical Findings

Table 4 summarises the empirical findings of the common themes found in the benchmarking of three organisations which have achieved business excellence and codified interviews at Veoneer. Furthermore, it illustrates the cultural and systemic factors of a management system. The cultural factors were found to be a common requirement among three benchmarked organisations and Veoneer. The systemic factors were identified from the interviews with Veoneer employees, hence was focused on factors specific to Veoneer’s management system.
<table>
<thead>
<tr>
<th>Themes</th>
<th>Factor</th>
<th>Main Empirical Findings</th>
</tr>
</thead>
</table>
| Leadership  | Culture  | • Top Management High Involvement  
• Communication from Top Management about strategy and goals.  
• Motivation by Top Management to employees regarding organisational vision. |
| Strategy    | Culture  | • Clear Strategy, Mission and Vision shared across all departments of the organisation.  
• Linkage of Strategy to Processes  
• Localisation of Strategy to cater to local policies and conditions.  
• Regular Assessment and Universal KPI Measurement. |
| Processes   | Culture  | • Clarity in definition and categorisation of processes.  
• Linkage of Processes to Business Results through Management System.  
• Detailed local descriptions and global frameworks of processes  
• Streamlining of processes and process flow across organisations |
| People      | Culture  | • Alignment of individual objectives to organisational goals and objectives.  
• Emphasis on employee motivation, development and reward.  
• Emphasis on training and education based on company systems and requirements.  
• Continuous education of employees.  
• Sharing of Knowledge within the organisation.  
• Focus of building a culture of Management Systems and Excellence within organisation  
• Competence Matrix |
| Integration | System   | • Requirement to comonize all systems and procedures across the organisation.  
• Need for a single platform with all relevant information available.  
• Sharing of knowledge, problems and solutions through integrated systems. |
| Standardisation | System | • Need for a single system and way of working.  
• Consistency of various systems and procedures, globally for easier cross-functionality and knowledge sharing. |
### Accessibility System
- Visual Process Maps and visual information instead of long documentation.
- Internal administrative access for changes, upgrades and modifications of the management.
- Visual indicators and measures based of individual job description and role.
- Remote-accessibility for employees travelling or without access to network.

### Usability System
- Interactive system with clickable processes and reliable information.
- Aggregation of all information into a single system for easy search.
- Awareness creation through training and workshops for management system.
- Stronger link between management system usage and job roles.
- Feedback options for user-generated feedback and continuous improvement.

Table 3: Summary of Empirical Findings
5 ANALYSIS AND DISCUSSION

The following section is divided into two sections, cultural and system dimensions. The first section includes four sub-topics, in which four cultural factors in the empirical findings of the study were analysed with the literature review. Further, the links between the factors and business excellence were identified through the core themes of excellence. The second section includes three sub-topics, in which four system factors were analysed with the literature review. This was followed by identification of the links between the factors and business excellence through the core themes of excellence.

In support of Wilkinson & Dale (1999) study which highlighted the need for a system which approached to address cultural problems and provide a total systems approach, offering opportunities for holistic business improvement, this study found equal importance in both cultural and systemic factors of the management system, in accordance to Wilkinson & Dale (1999). A good management system is a foundation for an organisation which aims to achieve business excellence (Gómez, et al., 2011; Latham, 2012; Seghezzi, 2001). Excellence models like the EFQM and MBNQA are used to structure management systems of an organisation to help in the achievement of business excellence (Latham, 2012; Gómez, et al., 2011). It provides an integration of systems and culture, based on the excellence models to overcome the limitations of standalone cultural standards and total systems view (Wilkinson & Dale, 1999). From the benchmarking study, it is seen that cultural factors like leadership and people use management systems for assessment, training, recruitment, etc. to achieve business excellence. Furthermore, the interviews from Veoneer point to the symbiotic relationship between culture and systems for the adoption of a management system throughout the organisation.

From the core themes of excellence, which is found by Kanji (1998) and Porter & Tanner (2004), six themes of excellence are defined: leadership, strategic alignment, people focus, fact-based process management, organisation learning, innovation and continuous improvement, customer focus. The benchmarking study and interviews highlight four cultural themes which are important in achieving business excellence through management systems, them being: leadership, strategy, processes and people. This provided four themes found in the core themes of excellences to be similar to the empirical data found in this study, them being: leadership, strategy, processes and people.
The four cultural factors of the management system, leadership, strategy, processes and people were analysed and discussed as follows:

5.1 Leadership
Leaders of an organisation play an important role in setting a clear direction, clarifying the vision and providing value for an organisation (Porter & Tanner, 2004). The benchmarking study revealed that all three organisations’ leadership teams and top management were involved in the management system of the organisation at various levels. Furthermore, the leaders and top-management of these organisations constantly communicated with the employees through the management system. They used the management system to communicate the strategy and goals of the organisation. This was found to be a key driver in the achievement of business excellence (Eskildsen & Dahlgaard, 2000). The interviews highlighted the need for such a system and level of communication at Veoneer, which would provide encouragement to use the management system regularly.

For a management system to be implemented in an organisation, there is a requirement for decisions and approvals to be made by top-management or senior leaders of an organisation (Nabitz, et al., 2000). ETK, IETT and Phillips had leadership teams which drove excellence approaches through the management system which led to excellence being achieved in the organisation. Leadership teams led the design, development and implementation of a management system, providing a sense of a leader being “in-charge” of the management systems of the organisation, which is a critical factor in the success of a management system (Mohammad, et al., 2005; Sumner, 1999). The VES team along with the Quality Department, at Veoneer, took leadership positions in the design, development and implementation of the management system. Furthermore, this provided a business perspective in the development of a management system (Sumner, 1999) and provided clarity, focus to the users of the management system.

Leadership, at all levels, was shown to be a driving force in ETK, IETT and Phillips. It had an impact on the strategy, processes and people of the organisation, leading to excellence in financial and non-financial results (Talwar, 2011).
5.2 Strategy
Organisations aiming at business excellence needed to implement their mission and vision by developing a clear and focused strategy which supported the policies, understood the capabilities and communicated the same to all its members (EFQM, 2017). It included the strategic development, planning and alignment to the organisation’s mission and vision (EFQM, 2012; Porter & Tanner, 2004). ETK, IETT and Phillips had clear visions and strategy which was communicated at all levels of the organisation as well as to individual employees. This was done with the help of various management systems respective to each organisation. This was found to be the case in Veoneer as well.

Management systems helped to translate strategies and goals of the organisation into individual objectives, not only helping in reaping the benefits of a good management system for the user (Latham, 2012) but also in providing KPIs and processes linked to strategic goals and benchmarking tools for the organisation to measure excellence (Toma & Marinescu, 2018). At Veoneer, there was no direct link between the organisation’s strategy, VS Standards and KPIs, which made it difficult to measure the benefit of the current strategies during internal audits.

Regular assessments were important in aligning the organisation to its strategic goals (Rusjan, 2005). It provided organisations with identification of areas for improvement and areas of strength. IETT, ETK and Phillips engaged in regular assessments of the strategic goals through their respective management systems leading to modification and adjustment of goals based on the outcomes of the assessment. Veoneer had similar systems available within the organisation but there was a lack in clarity of the usage of management systems in the process.

5.3 Processes
Organisations have multiple clusters of business processes that are modelled, managed, assessed and improved to get the desired outcome (McCormack & Johnson, 2001). Processes and the management of them is a strategic way of managing the organisation to improvement performance (Looy, et al., 2011; Porter & Tanner, 2004). Phillips and IETT adopted this idea by linking processes and process improvements to business results, through the management of process using the management system. Veoneer had such systems available in the organisation but there was a lack of clarity in the usage of these systems under the management system.
Respondents in the interviews at Veoneer highlighted multiple ways of working within certain processes and departments. This tendency could be due to the weak connections between people in the organisation who understand the business processes, the leaders who create these processes and strategies formed to utilise these processes through the management system (Cobb, 2003). IETT, Phillips and ETK had clear definition and categorisation of their processes and provided localisation in processes with a global framework. This contributed to uniform ways of working, with the additional benefit of cross-functionality between departments, contributing to achieving excellence (Cobb, 2003). All three organisations had integrated the efforts of creating a plan and reviewing processes with clearly defined goals and objectives linking to the organisation’s overall strategy using management systems. This helped in reviewing and measuring process effectiveness (Cobb, 2003).

ETK, Phillips and IETT had documentation systems which contained all of the organisations processes, procedures, documentation, forms, manuals, etc. in their respective management system. This was used by leaders to communicate strategic goals, new processes and structures, etc. Such a system was fundamental to the working of an organisation regardless of size, sector, etc. (Beechner & Koch, 1997). VNet, Veoneer’s intranet portal served the same purpose within Veoneer. The system was available to anyone on Veoneer’s network and all employees were given access to VNet. Due to difficulties and technical issues, certain departments within Veoneer did not have access to relevant process documentation, for example: hardware-related departments commonly found this problem as compared to software-related departments. This operational weakness hindered employees from involving in process related management systems, discouraging users to contribute to continuous improvement and self-assessment (Dahlgaard, et al., 2013). Better processes, then, encouraged users to use and engage with the management system regularly within Veoneer. Hence the availability of processes and process-related documentation, for departments’ use, review and periodic assessment for relevancy and dispense when obsolete proved to be critical for a management system’s usage (Mohammad, et al., 2005).

5.4 People
People were found to be a fundamental component of any organisation (EFQM, 2012; Balbastre-Benavent & Canet-Giner, 2011; Latham, 2012). EFQM and MBNQA Excellence Models found it necessary to have high involvement of employees in the implementation of management system to achieve business excellence in an organisation (Latham, 2012; EFQM,
Furthermore, it was actively encouraged by the EFQM Excellence Model (Balbastre-Benavent & Canet-Giner, 2011). ETK, Phillips and IETT reflected this by involving all members of the organisation in the achievement of business excellence through their various management systems. ETK and IETT, as with Veoneer used different competence matrix systems in order to assess and evaluate its employees’ work and prospective business and employment opportunities.

Weak connections in an employee’s individual objective to the organisational goals seemed to be a deterrent in the usage of management systems within Veoneer (Cobb, 2003). IETT and Phillips overcame this barrier by providing linkage between an individual’s objectives and the company’s overall goals. Respondents in Veoneer found such a system to be an encouragement to use management system regularly.

EFQM (2012) highlighted the need for “development and involvement of people” through knowledge sharing within an organisation. Phillips and ETK have used this criterion to build learning organisations through increased involvement of employees, support for innovation and creative abilities. This encouraged learning within an organisation and was important in maximising knowledge and usage of knowledge within the whole organisation (Calvo-Mora, et al., 2015; Porter & Tanner, 2004). Veoneer had similar workshop and job-related trainings available, but there was no single unified platform which displayed the availabilities. This led to employees finding a lack of involvement in education of the employees by the organisation. Such a system could hinder continuous learning and education which leads to continuous improvement and innovation (Calvo-Mora, et al., 2015; Porter & Tanner, 2004).

Continuous improvement and the culture of continuous improvement within an organisation is critical in meeting the organisation’s demand for excellence (Mohammad, et al., 2005; Kanji, 2002; Kanji, 1998; Latham, 2012; Porter & Tanner, 2004). At Veoneer, a strong culture of safety was present within the organisation. This was reflected in the products, processes and every-day decisions regarding the products. There was no clear culture of management system way of working and continuous improvement present within the organisation. The adoption of continuous improvement culture, which was present in Phillips and ETK, provided organisations with a springboard for cultural changes within the organisation and provided same cultural mode across the entire organisation (Mohammad, et al., 2005). Furthermore, a
standard culture promoted active collaborations within the organisation (Mohammad, et al., 2005), an area which Veoneer was actively focusing on.

The adoption of management systems required trainings, re-skilling and development of all personnel within the organisation (Sumner, 1999; Porter & Tanner, 2004). Phillips, ETK and IETT invested in management systems which focused on employee training and development, empowerment through competence matrices and business opportunities, and rewards as a path to achieve business excellence. This was important factor in the achievement of business excellence according to EFQM (2012).

The four factors integration, standardization and harmonization, accessibility, and usability which were found to be related more to the system aspect are analysed and discussed as follows:

5.5 Integration and Standardization

Integration is highlighted by the respondents as a major factor that is required in the management system. Integration would create the value of having a single platform that would commonize all the systems and procedures across the organization enable effective sharing of knowledge, information, problems and solutions. The difficulties of efforts in duplication, excessive documentation, internal management complexity, delay in audits and problem to benchmark best practices were noted in the responses of the interviews as was reported in the literature review (Beckmerhagen, et al., 2003; Domingues, et al., 2012; Sampaio, et al., 2012; Zeng, et al., 2010; Ismail, et al., 2009). This evidently seemed inefficient and unnecessary with the organisation. Most of the respondents agreed that integration of the systems into a single system would prove helpful and beneficial as a solution to these difficulties as was reported in the literature of integrated management system (Karapetrovic & Jonker, 2003; Almeida, et al., 2014; Rasmussen & Jørgensen, 2007; Asif, et al., 2010). The holistic approach of integrating the system in Veoneer would enable them to be more efficient and optimal usage of their resources as stated by Rasmussen & Jørgensen(2007) and Asif et al.(2010). This will further enable Veoneer to enhance the synergies between different system and avoidance of duplication of efforts that would finally resulting into improvement of organizational efficiency and profitability through the management system (Rasmussen & Jørgensen, 2007; Seghezzi, 2001; Almeida, et al., 2014).
Standardization is further highlighted as another necessity by the respondents meaning to create a single way of working and the consistency in it, globally. The lack of consistency was noted across the various system and processes in Veoneer. Presence of localised processes and systems were acknowledged by the respondents. It was acknowledged by the respondents that even though the existing systems work efficiently standalone, but problems do exist during the process of cross functional utilisation of systems and information, internal audits and internal benchmarking. This supported the findings from the study of Goodhue et al (1992) which listed better and improvement in information exchange and co-ordination within subunits in the organization as benefits of standardization.

Few respondents answered as a solution to the existing problem is to have a unified approach in the management system that corresponds to the findings of literature review from the study by Gattiker et al. (2005). This form of approach would help Veoneer to illustrate a unified single image to the user of the management system. It will also help in avoiding information asymmetry as mentioned by Gattiker et al. (2005) thus facilitating better collaboration, fewer conflicts and increased efficient communication. This will also help in optimisation of their business process as stated by Hawkins et. al (2004).

The concept or the necessity of harmonization, however was not found in the findings of the interviews among the respondents in this study. This was probably due to the reason that the organization is at its beginning years and standardization is probably more seen as important than harmonization by the respondents at this stage.

From above, it can be concluded that the factors integration and standardization are found to be effective in influencing the core theme of excellence in terms of organizational learning, innovation and improvements. These factors in the management system would help avoid formation of organization islands (Sampaio et al.,2012) and enhance the synergies between different standards and system finally resulting into improvement of organizational efficiency and profitability (Rasmussen & Jørgensen, 2007; Seghezzi, 2001). Further having a common integrated and shared platform in the form of management system would help in achieving effective share of knowledge and problems which would lead to identification of the improvements and innovation that is necessary for both the management system and the organization.
These two factors also further create the value of synergies between systems and holistic approach which in turns can also be classified as needs of the users in the management system and are factors that needs to be focused on during the designing of the system. The systematic management of facts and improvements in the system and organization would be made possible by the consideration of these factors in the management system. Thus, a clear link between these two factors and theme of facts-based process management could be drawn also.

Consequently, these all links connect to the approach of business excellence with the core themes (organizational learning, innovation and improvements and facts-based process management) that makes integration and standardization as critical elements in the management system in terms of business excellence.

5.6 Accessibility
Most of the respondents pointed out, several times during the interviews about the importance of accessibility in management system. Accessibility is considered as a major determinant by the respondents that impact the quality of the system as stated by (Wixom & Todd, 2005; Nelson, et al., 2005). One of the major requirements that was stressed upon during the interviews was the easy access of information and documentation in the management system. Both the findings from the literature (Nelson, et al., 2005) and interview suggests that access to information is viewed as a necessary condition for the quality of the system.

Easy accessibility through use of visual mapping would enable the information and knowledge to be used in a vital way by the user to increase the meaningful use of system. According to the respondents, the accessibility in the system could be further strengthened by the usage of visual indicators and measures based on individual job description and role that would increase the behavioural intention of the user to use the system (Wixom & Todd, 2005). The respondents completely agreed to the fact that this increase in intention would lead to their increase in satisfaction with the system.

The ability to have internal administrative access to the system and remote accessibility would also help the system to be perceived as easy to use. This perceived ease of use would directly influence the quality of the system by increasing the satisfaction level of the user in the system. This corresponds to what Nelson et. al (2005) stated that how a system which is perceived as easy to use in considered as a system of high quality. The findings from the interviews
completely corresponds with the DeLone and McLean model (2003) how accessibility could directly influence the user satisfaction and indirectly influence the use satisfaction through perceived ease of use and behavioural intention to use the system.

The factor of accessibility is thus an important aspect in the management system that creates the value of ease of access which is a major user requirement for the system. This value of ease of access could be achieved by focussing on this factor during the design of the system. This correlates to the importance of this factor in terms of approach to excellence through the core themes of facts-based process management. The correlation is supported by the definition of this theme which states about the capability of the system to meet the requirements and the focus on this aspect to achieve this capability. This capability can be attained by focusing on accessibility during the design of the management system.

5.7 Usability
Most of the respondents mentioned the importance of usability in terms of all the five constructs (navigation, presentation, learnability, task support and customization) that was identified during the literature review (Lauesen & Younessi, 1998; Scott, 2008; Singh & Wesson, 2009). The constructs of navigation and presentation includes the degree of ease with which the users could move around in the system and the level of complexity of the system that impacts on the understanding of the output from the system and interpretation of it by the users in the management system (Scott, 2008; Singh & Wesson, 2009). These constructs can be influenced by user requirements such as interactive system with clickable processes and reliable information, and aggregation of all the information for easy search as stated by the respondents. This would facilitate the quickness and efficiency of the usage in the system.

Many respondents highlighted the importance of proper introduction to understand the system and its purpose. Singh and Wesson (2009) also identifies the ease to learn the system without long introduction as a measure of learnability of the system. Awareness creation through training and workshops for management system would impact the usability of system through the construct of learnability. This would make the system easy to learn and create value for the users in terms of usage of the system. Another main requirement which was highlighted during the empirical findings was the stronger link between management system usage and job roles. This link would further impact the other two construct task support and customization (Singh & Wesson, 2009). The necessity of having a management system that could increase the
effectiveness and efficiency of the daily work and the ability to see in the system what is important or required for the roles of users in terms of task and role support (Singh & Wesson, 2009) as mentioned by all the respondents.

The factor of usability would then aid in the values of having easily navigable, simple, easy to learn and better task and role fit system that could be delivered to the users in the management system. Evaluation of usability would provide the means to receive the feedback from the usage of the system. The factor usability would then can be identified as a factor which correlates with the theme of fact-based process management as it is one of theme which would be critical during the design of the management system in terms of meeting the requirements of the user. The facts that includes the requirements and the feedback from the evaluation would aid in systematic management of the system in terms of its improvements.

Table 5 illustrates the cultural and systemic dimensional links of factors in the management system to business excellence through core themes of business excellence (Kanji, 1998; Porter & Tanner, 2004).

<table>
<thead>
<tr>
<th>Factors</th>
<th>Theme- Dimension</th>
<th>Core Themes of Business Excellence (Kanji, 1998; Porter &amp; Tanner, 2004)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Culture</td>
<td>Leadership</td>
</tr>
<tr>
<td>Strategy</td>
<td>Culture</td>
<td>Strategic Alignment</td>
</tr>
<tr>
<td>Process</td>
<td>Culture</td>
<td>Organizational learning, innovation and continuous improvement</td>
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<td></td>
<td></td>
<td>Fact-based processes management</td>
</tr>
<tr>
<td>People</td>
<td>Culture</td>
<td>People Focus</td>
</tr>
<tr>
<td>Integration</td>
<td>System</td>
<td>Fact-based processes management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organizational learning, innovation and continuous improvement</td>
</tr>
<tr>
<td>Standardisation</td>
<td>System</td>
<td>Fact-based processes management</td>
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<tr>
<td></td>
<td></td>
<td>Organizational learning, innovation and continuous improvement</td>
</tr>
<tr>
<td>Accessibility</td>
<td>System</td>
<td>Fact-based processes management</td>
</tr>
<tr>
<td>Usability</td>
<td>System</td>
<td>Fact-based processes management</td>
</tr>
</tbody>
</table>
6 CONCLUSION

This chapter presents conclusion and suggestions for future research, that were arrived upon while conducting empirical research and analysis. Additionally, it provides recommendations for Veoneer with respect to management systems and for organisations looking to implement management systems with business excellence in mind.

The thesis aimed to identify factors in management systems which contributed to business excellence given the limitations of external factors, time-limit and organisation-focus. On identifying the problem of the lack of explicitly defined factors in management systems contributing to business excellence within an organisation, found in theory and literature, the benchmarking study and interviews provided themes of explicit factors found in management systems and its contribution to business excellence. These themes when compared and analysed with BE models and management systems theory, provide well defined factors in management systems contributing to business excellence, leading to fulfilling the initial objective of the thesis. As a result, the thesis is considered successful in fulfilling its objectives.

The study contributes to existing theory and literature in business excellence and management systems through the usage of BE models’ criteria which provide contributing cultural factors for achieving business excellence in any organisation. The identification of systemic factors contributes to theory and literature in systems theory and business excellence. Additionally, the cultural and systemic view of management systems in business excellence contributes to literature in business excellence theory which highlight the importance of management systems. Furthermore, the study is of value for organisations looking to design, develop and implement a management system since it brings awareness management system factors which can be incorporated into the business excellence achievement journey at an early stage. Overall, the thesis contributes to theory and literature in management systems and business excellence due to the co-existent nature of cultural and systemic factors in management systems. This enriches current theory on business excellence and management systems by providing a cultural and systemic view of management systems in business excellence, an area which lacks the holistic perspective.

Through the benchmarking of three organisations which achieved business excellence, followed by semi-structured interviews at Veoneer, 8 factors were identified to be contributing to efficient usage and utility of management systems. Kanji (2002) and Gómez, et al., (2011)
highlight the importance of a good management system contributing to business excellence. This research supports and encourages the usage of these factors at the early stages of design of the management system in an organisation. The reason being that early adoption of these cultural and systemic approaches to the design of a management system provides a good roadmap for an organisation aiming to achieve business excellence and business excellence awards. Furthermore, these factors are important in the implementation and post-implementation phases as well. Feedback systems and a culture of providing feedback proved to be critical for utilisation and adaption of a management system. Organisations avoid inter-related cultural and systemic approaches due to the complexity of each approach (Wilkinson & Dale, 1999). Instead, organisations generally use systemic approach followed by the culture due to the ease of training employees based on an existing system. The lack of feedback systems and complex system architecture often hinders user feedback resulting in the minimal usage of management systems in an organisation.

The cultural and systemic factors in management systems provides a holistic view of an organisation’s path to business excellence but does not take into account the level of depth each of these factors play, individually in the business excellence journey. While the thesis provides eight systemic and cultural factors, due to time limitations, there can be more factors which influence management systems’ contribution to business excellence. The view of balanced culture and systems approach, while beneficial, does not take into account levels of sophistication in technology, area of industry and geography, which can all play an important role in cultural and systemic factors. While these are potential weaknesses, they provide pathways for future research in these areas based on the thesis.

In conclusion, a mix of cultural and systems approach to management systems are critical for achieving business excellence in any organisation. The imbalance of these approaches can be corrected through continuous feedback and assessment cycles in the short term. The authors recommend Veoneer to analyse the results of this evaluation and use the experiences that the authors provide in the discussion of management systems. Even though the general impression of Veoneer’s management system is thoroughly worked through, it still provides scope of improvements which could lead to financial and non-financial excellence.
6.1 Recommendations

The following aspects are recommended to be considered for Veoneer during the designing and implementation of their management system after the completion of this research: -

- The eight factors that are identified relevant and connected to core themes of business excellence needs to be considered during the design phase of the management system. These factors should be also being further focussed on, during the implementation, and post implementation phases of the management system also. In light of this, in order to approach the excellence, having these factors on board from the early phase of the life cycle of the management system would aid the organisation in developing an effective and efficient management system. It is also recommended that equal importance should be addressed to both cultural and systemic factors of the management system. This would lay the foundation for Veoneer to have a good management system and would aid Veoneer in realising their aims to achieve business excellence.

- The Veoneer excellence team should play the key role of project champion in the design, development, execution and feedback of the management system. The team would play a critical role in effective communication between the user and the top management ensuring high rate of adoption and usage of the management system. The team should comprise of individuals who would be able to understand both the cultural and system aspects that are deemed necessary and important for the management system.

- The results of the research study suggest establishing a visible link between the KPIs and VS standards that would also aid in alignment of the strategies of Veoneer with the financial and non-financial performance. It also further recommends adopting universal KPIs which could be understood and easily explained by all the relevant departments in the organization.

- Integration and standardization of the systems in the management system would aid in effective sharing of knowledge, reduction of delays in internal audits and duplication of resources and efforts. It would also help in benchmarking best practices across all units of Veoneer. This would further eliminate the existing different ways of working and formation of organizations islands that has impacts on the financial and non-financial performance of the organisation.
• Accessibility of the management system is recommended as an important factor in system quality. The management system should be designed considering this aspect to facilitate ease of access of the document and information in the system. Use of visual interactive process maps, visual concise information is recommended. Further, the access for internal administrative rights to facilitate changes, upgrades and modification in the management system is deemed as necessary functions to be considered in the designing of the management system. The other determinant reliability of system quality, although was not mentioned by the respondents. However, it is recommended to consider both factors as equally important for the management system.

• Usability of the system is recommended also as one of factors in the management system that should be focussed on. The usability of the system could be increased by usage of interactive clickable process maps and aggregation of all information in to a single system. The element of search function should be efficiently designed so that navigation in the system becomes easy. The usability can be further increased also by trainings and workshops creating more awareness and values of the management system.

• Evaluation by feedback is an effective tool for continuous improvements. This would increase the performance of the system by acceptance and satisfaction of the system among the users. These measurements could be made possible by evaluation of the system among the system by creating questionnaires or other evaluation methods focussing on the eight factors that are identified as relevant in the study and can contribute to the achievement of business excellence.

6.2 Suggestion for Future Research

The research was conducted with a narrow approach where the study was to identify the factors that are relevant to the internal stakeholders of the case organisation. Future research could be carried out considering the external stakeholders, in order to connect to all the core themes of business excellence. External stakeholders form an equally important part of an organisation, thereby providing a broader view of the effects of cultural and systemic view of management systems in business excellence. This research was also one of the few attempts that was made to link the factors in management system and business excellence in terms of both systems and cultural dimensions. The findings from this research could be further strengthened by studying
the implementation of these cultural and systemic factors in a management system, by an organisation aiming to achieve business excellence, thereby understanding the depth of these individual factors, in a management system and its individual contributions to business excellence. The study of implementation could also provide paths and opportunities for new factors which may not have been found or considered in this research. Furthermore, the study of implementation could also provide opportunities to see how these factors interact with the management system users in an organisation thereby catering to individual organisational requirements towards the achievement of business excellence. In addition, future research could also be aimed at developing a model of management systems for business excellence based on the cultural and system factors. This model could provide guidelines for organisations aiming to achieve business excellence through design, development and implementation of a management system aligned towards business excellence.
REFERENCES

Books


**Online Sources**


**Academic Papers**


APPENDIX I

Interview Record Sheet

Master Thesis: Factors in Management Systems that contribute to Business Excellence: A Case Study of Veoneer Sweden AB.

Topics:
A. The assessment of current usage of management systems
B. The factors of business excellence that are inherently used in management systems
C. The identification of systemic factors which encourage users to use management systems regularly.

Selection Criteria:
A. A user, administrator, owner or a combination of any, of a management system
B. A representative of a certain department, facility or unit.

Form: Semi-Structured Interviews

<table>
<thead>
<tr>
<th>Respondent No.</th>
<th>Location</th>
<th>Mode of Interview</th>
<th>Department</th>
<th>Position</th>
<th>Years of employment at the Organisation</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vårgårda</td>
<td>Face-to-Face</td>
<td>Facility</td>
<td>Facility Coordinator</td>
<td>7</td>
<td>Female</td>
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<tr>
<td>2</td>
<td>Vårgårda</td>
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<td>Operations</td>
<td>Production Quality Manager</td>
<td>8</td>
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<tr>
<td>3</td>
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<td>Human Resource Department</td>
<td>HR Consultant</td>
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<tr>
<td>4</td>
<td>Vårgårda</td>
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<td>Industrial Design</td>
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<tr>
<td>5</td>
<td>Linköping</td>
<td>Skype</td>
<td>Quality</td>
<td>Quality Control leader</td>
<td>3</td>
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<tr>
<td>6</td>
<td>Skellefteå</td>
<td>Skype</td>
<td>Veoneer Lidar</td>
<td>Project Team leader</td>
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<td>7</td>
<td>Vårgårda</td>
<td>Face-to-Face</td>
<td>Production and Process</td>
<td>Plant Manager</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Development</td>
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<td></td>
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<tr>
<td>8</td>
<td>Linköping</td>
<td>Skype</td>
<td>Feature Department</td>
<td>Group Manager Development - Line Manager</td>
<td>2</td>
<td>Male</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(Camera Systems/Software</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Development)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td>Vårgårda</td>
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<td>Maintenance</td>
<td>Group Manager</td>
<td>27</td>
<td>Male</td>
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<td>10</td>
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<td>Face-to-Face</td>
<td>Production</td>
<td>Department Manager</td>
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<td>Male</td>
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<tr>
<td>11</td>
<td>Vårgårda</td>
<td>Face-to-Face</td>
<td>Logistics &amp; Scheduling</td>
<td>Logistic Project Leader</td>
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<td>Female</td>
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<td>12</td>
<td>Vårgårda</td>
<td>Face-to-Face</td>
<td>Production</td>
<td>AMG PRODUCTION Leader</td>
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<td>Male</td>
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<tr>
<td>13</td>
<td>Linköping</td>
<td>Skype</td>
<td>Quality</td>
<td>Quality Assurance leader</td>
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<tr>
<td>14</td>
<td>Stockholm</td>
<td>Skype</td>
<td>RADAR</td>
<td>Agile Coach, Scrum Master</td>
<td>0.6</td>
<td>Male</td>
</tr>
</tbody>
</table>
Interview Guide

1. Job Designation:
2. Department:
3. For how long have you been working here? (Including Veoneer and Autoliv experience)
4. How do you use the management system on a daily basis?
   A. What tools do you use?
   B. Where do you find these tools?
   C. How easy is it for you to access them?
4. What is the mission and vision/purpose of the company?
   A. How is it realized/executed in your department?
   B. What do you think are the factors which help you realize/execute this?
   C. How do you measure these Key Performance Indicators?
5. What challenges have you faced while using the tool specific to your role?
6. How did you resolve these challenges?
7. What type of improvements do you think could be used to respond to these challenges?
8. Have you faced any situation where you felt probably information from other departments could have helped you in your work or your department?
   A. How did you deal with the situation?
9. Have you been a user of more than one management system? If yes, how has your experience been? (Optional: Asked based on Response)
10. How do you find the information about inter-departmental processes on the management system?
    A. Is it easily accessible?
    B. How do you think it can be improved?
11. What solutions do you think can resolve difficulties with management systems?
12. Do you think different ways of working can be a potential solution?
13. What improvement do you think can be used to improve the current system and usage of it?
14. Is there something that you would like to tell us more about?
Visual Representation of Interview Guide

1. Current Status of the Management System
2. Integration of Management System
3. Link between Management System and EFQM Enablers
4. Future Scope
APPENDIX II

Factors contributed to the success of the excellence program in the three benchmarked organizations.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Phillips</th>
<th>Ericsson Nikola Tesla</th>
<th>Istanbul Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Top management high involvement.</td>
<td>Top management high involvement.</td>
<td>Effective leadership involved in the transformation.</td>
</tr>
<tr>
<td></td>
<td>Intensive communication between leaders and employee at all levels of organization.</td>
<td>Intensive communication between leaders and employee at all levels of organization.</td>
<td>Intensive communication between leaders and employees at all levels of organizations.</td>
</tr>
<tr>
<td></td>
<td>Strong motivation of employees by action of top leaders.</td>
<td>Motivation of employee by strong leadership to imbue employees with desire to change the organization and be the best.</td>
<td>Motivation of employee towards the goals and achieve the results in accordance with company's vision and strategies</td>
</tr>
<tr>
<td></td>
<td>Use of assessment, improvement driven programs and initiatives for driving excellence.</td>
<td>Use of Assessment, surveys, Leadership core curriculum program for continual improvement and driving excellence.</td>
<td></td>
</tr>
<tr>
<td>Criteria</td>
<td>Phillips</td>
<td>Ericsson Nikola Tesla</td>
<td>Istanbul Transport</td>
</tr>
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<td>------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Strategy</td>
<td>One-page strategy with clear vision and concrete strategic and operational targets shared with all employee.</td>
<td>Content of company direction is in a booklet and intranet at one location available to all employee.</td>
<td>Single location consolidation of mission, values, strategy in the organization.</td>
</tr>
<tr>
<td></td>
<td>Implementation of self and peer assessments.</td>
<td>Operation of the organization to be carried out within single corporate policy, directives and guidance.</td>
<td>Stakeholder focused strategy.</td>
</tr>
<tr>
<td></td>
<td>Establishment of clear relationship between processes/approach and results.</td>
<td>Company direction is periodically assessed and reviewed and if necessary updated once a year.</td>
<td>Strategic plan includes strategic objectives, targets and performance indicators.</td>
</tr>
<tr>
<td></td>
<td>Establishment of performance indicators as the link between processes and results and transparent link between strategic goals and operational targets.</td>
<td>Key success factors are determined.</td>
<td>Strategy includes assessment, monitoring and reporting.</td>
</tr>
</tbody>
</table>

Key performance indicators are selected for stipulated business perspectives.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Phillips</th>
<th>Ericsson Nikola Tesla</th>
<th>Istanbul Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>Priority on motivation of employee.</td>
<td>Priority on motivation of employee.</td>
<td>Inclusion of HR policy in excellence policy and enhancement of staff motivation, satisfaction and knowledge.</td>
</tr>
<tr>
<td></td>
<td>Guidance of employee in personal development and capabilities.</td>
<td>Strong emphasis on measure, plan and improve competences of employees and increase work efficiency.</td>
<td>HR processes systematized and subsequently documented as part of integrated management systems</td>
</tr>
<tr>
<td></td>
<td>Strong emphasis on creating a “caring&quot; and &quot;learning&quot; organization.</td>
<td>Involvement and support of innovative and creative behavior and to reward and empower employee.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Training of employee for guidance of carrier development and intensifying their learning for improvement of their capabilities.</td>
<td>Alignment of individual and team objectives to organizational goals and targets.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communication channel between employee and top management to propose and receive feedback for problem solution, initiatives.</td>
<td>Communication channels for internal communication ensuring participation of all company units’ participation for distribution of information from management to employees and collection of feedback information from employee to management</td>
<td></td>
</tr>
<tr>
<td>Criteria</td>
<td>Phillips</td>
<td>Ericsson Nikola Tesla</td>
<td>Istanbul Transport</td>
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<tr>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Process</td>
<td>Linking of process improvements to business improvements and results and focus on achievement of business targets.</td>
<td>Outlining of customer group and markets interfacing and clear linkage with the process.</td>
<td>Process clearly defined in categories.</td>
</tr>
<tr>
<td></td>
<td>Use of Process survey tools.</td>
<td>Pragmatic view of the needs that is to be managed in business.</td>
<td>Formation of value chain and taking account of input and output relation.</td>
</tr>
<tr>
<td></td>
<td>Description of process as maturity grids in level of 1 (Basic approach) to 10 (World Class Quality).</td>
<td>Use of risk-based assessment and management review.</td>
<td>Linking of process and management support and business result.</td>
</tr>
<tr>
<td></td>
<td>Use of continual Improvement teams to act to improve the process</td>
<td>Use of tools for support of all stakeholders.</td>
<td>Quality assessment model to measure effectiveness of processes.</td>
</tr>
</tbody>
</table>