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Diagnosing Quality Culture

A Case Study at Swedavia

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Abstract

This master thesis aim to study the quality culture at Swedavia Airports, by answering questions such as “what does the present quality culture profile of Swedavia look like?” and “how Swedavia should work with quality culture to establish a sustainable and successful quality management?”. The project started off with a literature review, which covered several aspects related to quality culture and management. With the support of prior research performed by the Swedish Quality Management Academy, the authors then designed a survey with the purpose of mapping the current quality culture of the company. The result of the survey was then analysed and linked to the findings of the literature study. According to the survey, Swedavia’s quality culture seem to be centred around customer orientation and participation and cooperation, while continuous improvements and base decisions on facts had lower representations. Unfortunately, the survey results did not show statistical significance, hence its applications were limited. It did however serve as an opening for discussion. The findings show that culture is a complex subject with many levels, and while changes at the more superficial levels can occur, deeper levels such as values are hard to affect.

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1. Introduction

1.1 Background

Swedavia, owner of the major airports of Sweden, is a company embarking a transformation journey in their quality management. Being a relatively young organization, registered as a company in 2010, quality management is limited and centralized in the organization. However, within the quality department of Swedavia, forces are acting for a change. The quality department strive to transform the organization into a better one, in regards to performance. Multiple initiatives are set in motion to facilitate the transformation, and eventually reach greater levels of performance. An initiative is to investigate the actual transformation - in form of what, how and why -, which is the foundation of this master thesis.

In the field of quality management there is a distinction between authors focusing on *what to do* an *how do it* (Sousa & Voss, 2002). While reading books and articles about quality management, some authors (e.g. Bergman & Klefsjö, 2012) tend to differ between organization producing goods and organization producing services. Perhaps rightfully so since, arguably, the context each separate organization operate in differ (Moosa & Sajid, 2010). Also, there are various concepts of quality management, e.g. Total Quality Management, Lean, Six Sigma, or combinations of the aforementioned (Andersson, Eriksson & Torstensson, 2006). With the differences in context, the differences in opinions and division of *what* and *how* amongst authors and scholars, the different quality management concepts and so forth, the authors of this thesis argues that it can be tricky to lead a change in quality management, where to start, what to implement and how to do it.

The transformation from today's state to a desired future state of performance excellence is a set of breakthroughs in various areas (Juran & Defeo, 2010). One area which organizations must make a breakthrough within is the organizational culture (Juran & Defeo, 2010). Organizational culture is argued to have huge impact on performance (Juran & Defeo, 2010; Hofstede, Hofstede & Minkov, 2010; Schein, 2017). However, organizational culture alone do not enable successful quality management, other parts of the system are needed as well (Juran & Defeo, 2010; Hellsten & Klefsjö, 2000; Boaden & Dale, 1993).

A major part of successful quality management development is committed leaders, or top management (Juran & Defeo, 2010; Bergman & Klefsjö, 2012; Liker & Hoseus, 2008). Another area where committed leaders are essential is in cultural change (Schein, 2017; Hofstede et al., 2010; Liker & Hoseus, 2008). However, cultural changes often fail, due to being widely misunderstood (Juran & Defeo, 2010). Beer & Nohria (2000) argues that 70% of all organizational transformations fail. A reason why organizations fail in implementing quality management is due to cherry picking tools and techniques and failure in understanding quality management as a system (Juran & Defeo, 2010; Hellsten & Klefsjö, 2000). Part of the whole system, that enables successful quality management, is organizational culture. Part of the organizational culture is the quality culture (Cameron & Sine, 1999).

A great deal of authors (Juran & Defeo, 2010; Hellsten & Klefsjö, 2000; Boaden & Dale, 1993; Liker & Hoseus, 2008; Schein, 2017; Hofstede et al., 2010; Robbins & Judge, 2017, Cameron & Sine, 1999) mentions the effect organizational culture has on performance. Thus, as a step in Swedavia's quality management transformation, this thesis centre round profiling Sedalia's quality culture.

1.2 Aim

Swedavia have recently started their transformation journey in quality management. The literature review showed that quality management must be seen as a system, where the part of organizational culture plays an important role (Juran & Defeo, 2010; Hellsten & Klefsjö, 2000; Boaden & Dale, 1993; Liker & Hoseus, 2008). Therefore, the aim of this thesis is to profile the quality culture of Swedavia.

1.3 Quality Culture Profile Tool

Recently, the Swedish Quality Management Academy (SQMA) released a report describing a tool designed to measure quality culture. SQMA is coordinated by SIQ (Swedish Institute for Quality), which is an industry research institution established by the Swedish government. Sir's mission is to raise competitiveness and profitability of Swedish companies and organizations by creating, gathering and spreading knowledge of sustainable quality work (SIQ, 2016). The quality culture tool is a survey, and was developed through a collaboration between researchers and seven large Swedish organizations from different sectors. It is based on six quality "values", which together are supposed to describe what a quality culture consists of. These are customer orientation (CO), process orientation (PO), committed management (CM), participation and cooperation (PAC), continuous improvements (CI) and base decisions on facts (BDOF). Two or three pairs of described behaviours are linked to each value. Each pair consists of one supporting behaviour and one obstructing behaviour - values that either support or obstructs a quality culture. These behaviours acts as a foundation for the quality culture measurement tool, since they were used when formulating questions for the survey (Cronemyr, Bäckström & Rönnbäck, 2017). A slightly modified version was used when assessing the quality culture at Swedavia, which will be described in further detail in the methodology section of this report (chapter 3).

1.4 About Swedavia

Swedavia is a Swedish government-owned organisation who own, operate and develop national airports. Swedavia, in its current form, is a relatively young organization. In 2010, Swedavia took over the operation of 14 national airports from the government body Luftfartsverket in the aftermath of decisions made in the Swedish national politics. Out of the 14 initial airports, ten are today owned, operated and developed by Swedavia and the other four has changed to municipal ownership. Stockholm Arlanda and Göteborg Landvetter are the two largest airports owned by Swedavia. Swedavia's mission, vision and business idea are listed in table 1.

Mission	Together we enable possibilities for people to meet
Vision	We develop the airports of the future and create sustainable growth for Sweden
Business idea	Together with partners, we shall create value for our customers through attractive airports and availability

Table 1: Swedavia's mission, vision and business idea.

Swedavia's four organizational values are reliability, dedication, rethinking and welcoming. These values are described further in detail, table 2.

Reliability	We keep promises and develop our work methods to live up to expectations from customers and co-workers.
Dedication	We are engaged in our customers, and their needs, and always work to find a solution for the customer. We are engaged in each other, as co-workers. As leaders, we prioritise co-worker development. Every co-worker’s engagement is crucial for Swedavia's development.
Rethinking	We constantly develop our organization - our relations, business, co-workers and leadership. We harness creativity and the ideas of everyone to constantly improve. We want to lead the development. Together we create possibilities to go from words to action.
Welcoming	We are always welcoming, in the small as in the whole. We meet other with an open mind and a curious way. We greet diversity - it develop us. Swedavia is the natural choice as venue for meetings, airport and workplace. We stand for the welcoming feeling.

Table 2: Swedavia's four organizational values.

Swedavia have five principles for co-worker and leaders based on Sedalia's vision, values and code of conduct. These are listed and summarized in table 3.

1. Customer and business in focus	We create accessibility and ease traveling, business and meetings. We get to know the customers and their needs and do our best to meet them. We show interest and engagement to create a welcoming feeling in our organization. Together we create the means for a profitable business. Swedavia shall create a value for our customers through our airports and accessibility. Together with our partners, we develop our business.
2. One Swedavia	Each of us contribute to Swedavia as a whole and our result. We are needed - regardless of work tasks or position - to strive towards our vision and common goals. You see your part of the whole, and act accordingly to it.
3. A good role model	It is our responsibility to live our values on daily basis, amongst ourselves as well with our customers and partners. To act reliably, dedicated, rethinking and welcoming, is what guides us. Our behaviour is important and makes a difference. As co-workers of Swedavia we are good role models and are always "on stage". We are each other's work environment.
4. Bravery to become better	Swedavia welcomes rethinking. We need thoughts and ideas from everyone to constantly improve. Together we create possibilities to go from words to action. We are collectively satisfied in our success.
5. Clear communication	Collectively, we take responsibility in the creation of an open-minded, welcoming and respectful environment. Listening to each other's ideas, and give feedback in a constructive manner, is obvious to us. We seek and share information, knowledge and experiences.

Table 3: Swedavia's five principles.

Swedavia has four major sustainability goals set for 2020. These are:

1. 85 % customer satisfaction (75 %, 2017)
2. 75 % engaged leaders and employees (67 %, 2017)
3. 6 % return on operating capital, yearly (5,1 % 2017)
4. 0 ton emission of carbon dioxide, from fossil sources, in Swedavia's own operations

1.5 Research Questions

Based on the aim of this project, three research questions were established in order to help address the research problem. These are:

1. Which aspects are crucial in successful quality management?
2. What does the present quality culture profile of Swedavia look like?
3. How should Swedavia work with quality culture to establish a sustainable and successful quality management?

1.6 Report Structure

The report that follows will include five main parts, namely literature review, methodology, analysis, discussion and conclusion. The literature review will include an extensive background to culture and its components, as well as a brief summarization of how to define a successful organization from a quality perspective. The methodology section covers the data collection methods including an in-depth description of the quality culture profile tool, along with the delimitations and ethical aspects of the project. Common statistical analysis tools were used to interpret the data output, which will be presented in the analysis section of this report. The results will further be discussed in the discussion section, which will also involve a discussion of areas such as methodology, further research and implications. A conclusion chapter will follow, summarizing the most important findings.

2. Literature Review

Bryman & Bell (2011), defines literature review as one of the most important tasks in a research project. In this project, literature review was a continuous process throughout the entire project to add further to the width and depth of information. However, in the early phase of the project, solely literature review was conducted. A narrative literature review was used to widen the concept of quality culture in to other areas. According to Bryman & Bell (2011), a narrative literature review is less focused and more wide ranging in scope. The approach to the relationship between theory and research is an inductive one. An inductive approach means that *theory is an outcome of research* (Bryman & Bell, 2011, p.4). Combining a narrative literature review with a inductive approach, issues not anticipated or limitations of the topic become evident during the research (Bryman & Bell, 2011). That was the case of this project. Literature findings in the later parts of the project questioned the used method and the studied sub-topics.

Literature sources for this report were found in various ways. Firstly, the electronic database of Chalmers library was used in order to search for suiting articles and books. Search Strings such as “quality”, “culture”, “quality culture”, and “organizational culture” were used , among other as well. Secondly, for interesting articles and books, the references list was used in order to find more articles and books in the area, and thus dig deeper and wider in the literature. Thirdly, literature was found via recommendations in meetings with people in the field of quality. All literature sources did undergo a subjective screening process. The screening process was a general assessment based on elements such as number of citations, background of the author (nationality, profession, etc.), publication details (year, journal) and presence and in the area of study. The major parts of this thesis is based upon prominent scholars, and their respective literature, such as Juran, Hofstede and Schein. In minor areas, less known and less cited authors have been used partly due to the specific information they present, partly due to an extent in the width of literature.

2.1 Defining a successful organisation from a quality perspective

Today, enterprises often find themselves in a highly competitive environment and in order to respond, they continuously search for new effective approaches to enhance their management capabilities. In recent time, Business Excellence Models has been one of the most popular alternatives used by companies that want to accomplish this (Dahlgaard, Chen, Jang, Banegas & Dahlgaard-Park, 2013). The models encourage improvements and set standard performance benchmarks for key areas of quality work (Asher, Leba, Lonică, Moraru & Ahmad, 2015).

There are several versions, some of the most popular ones worldwide being the Malcolm Baldrige National Quality Award and the European Foundation for Quality Management Excellence Model (Sampaio, Saraiva, Monteiro, 2012). The Swedish Institute for Quality Management Model is used by many companies in Sweden. While there are differences between them, there are also many similarities which arguably gives an indication of what defines a successful organisation from a quality perspective (Eriksson et. al., 2016).

Figure 1 below shows an overview of the key themes for each of the management models mentioned above.

Key themes	MBNQA	EFQM	SIQ
Leadership	Visionary leadership	Leading with vision, inspiration, and integrity	Committed leadership
Customers	Customer-driven excellence	Adding value for customers	Customer orientation
People	Organizational and personal learning, and valuing workforce members and partners	Succeeding through the talent of people, and developing organizational capability	Competence development and participation by everyone
Processes			Process orientation
Improve and Innovate	Managing for innovation	Harnessing creativity and innovation	Continuous improvement and learning from others
Agility	Agility	Managing with agility	Faster response (reactions)
Management by facts	Management by facts		Management by facts
System approach and perspective	Systems perspective		
Results	Focus on results and creating value	Sustaining outstanding results	
Relationship with suppliers and partners			Interaction
Sustainability	Societal responsibility	Creating a sustainable future	Public responsibility
Future perspective	Focus on the future		Prevention and long-range perspective

Figure 1: Key themes of three famous management models - the Malcolm Baldrige National Quality Award, the European Foundation for Quality Management Excellence Model and the Swedish Institute for Quality Management Model (Eriksson et. al., 2016, p. 1206).

2.2 Developing organizational quality - where culture matters

According to Juran & Defeo (2010), an organization must complete five breakthroughs in order to achieve a sustainable change and create a state of performance excellence. The five breakthroughs must occur in leadership & management, organization & structure, current performance, culture, and adaptability & sustainability, figure 2. Breakthroughs in just some areas may create temporary superior results but, in order to achieve a sustainable change, breakthroughs in all areas are required. Furthermore, the areas are interrelated and thus changes in one area will affect others. However, making a breakthrough in culture has huge effects in an organization's performance (Juran & Defeo, 2010). In order for an organization to reach its desired goals, the culture must support them. Goals which do not fit well with the culture may be diluted, resisted or simply ignored. Therefore, the culture affects which goals an organization can reach as well (Defeo, 2016).

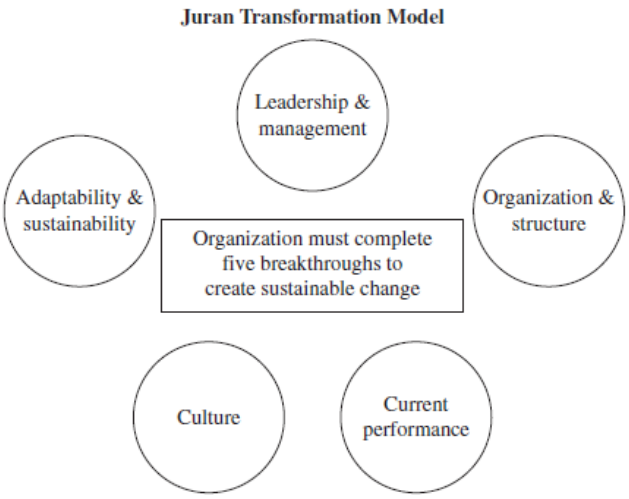

Figure 2: Juran's transformation model (Juran & Defeo, 2010, p.281.

According to Hellsten & Klefsjö (2000), for successful total quality management (TQM), organizations must TQM as a system. That system should consist of an organizational culture based on the core values of TQM, techniques and tools. What Hellsten & Klefsjö calls core values are, according to themselves, what others might call principles, dimensions, elements or cornerstones. In the case of TQM, to achieve a successful implementation an organization must start with the core values and base a culture upon them. Then, the techniques and the tools can be chosen. They should be chosen so that the techniques and tools support the core values. According to Hellsten & Klefsjö, one reason companies fail in implementing TQM is because they only use small parts from the system of TQM, i.e. just picking up a few techniques or tools. Therefore, TQM is more likely to be implemented successfully if its implemented as a system, consisting of core values which are supported by techniques which in turn is supported by tools (Hellsten & Klefsjö, 2000).

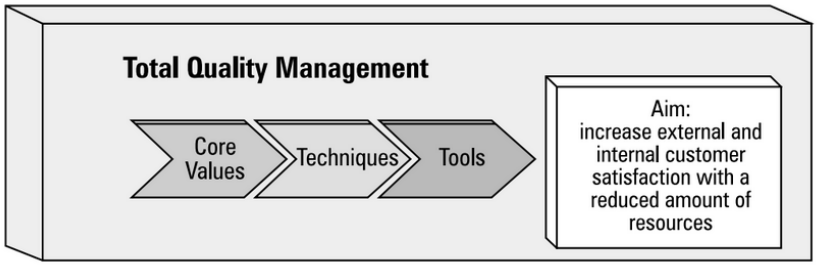

Figure 3: TQM as a system consisting of a culture based on core values, techniques and tools (Hellsten & Klefsjö, 2000, p.242).

Boaden & Dale (1993), constructed a framework for quality improvements in service organizations. The key aspects of the improvement process consists of four sections; organizing, changing the culture, systems and techniques, and measurement and feedback. Changing the culture is interrelated with all other aspects and a key element in the quality improvement process. Boaden & Dale regard culture as an ongoing, changing, process, rather than a prerequisite for success.

Lean, another quality management concept, originate from Toyota and their Toyota Way (Liker & Hoseus, 2008). The Toyota way is foremost about culture. The Toyota Way is also about tools and techniques. However, the techniques and tools are not the core of the Toyota Way.

According to Liker & Hoseus (2008), culture is *the heart and soul of the Toyota way.* All individual parts of the Toyota Way is interrelated with the Toyota culture, a culture build upon principles such as *respect for people* and *continuous improvements* (Liker & Hoseus, 2008).

2.3 Culture

In this section, two prominent models of culture will be presented in order to understand how culture is structured. Schein's structure of culture and Hofstede's onion model. Culture itself and the structure of culture is separate. The structure of culture defines the layers which culture manifest itself in. Culture, however, is mostly evident in the interaction between individuals (Schein, 2017). Culture is an abstraction and very complex. It is *an abstraction that refers to lots of concrete things such as structure, process, beliefs, values, and behaviour* (Schein, 2017, p.319).
Hofstede et al. (2010) defines corporate culture as a holistic concept. The impact of organizational culture is powerful and results in hard consequences (Hofstede, 2010; Juran, 2010; Schein, 2004). In a study conducted in Swedish industry, developing an improvement culture within organisations was ranked as the fourth most important quality challenge facing organisations (Eriksson et.al., 2016).

2.3.1 Schein's structure of culture

According to Schein (2017), the culture within a group is a product of shared learnings. To understand a culture, one must look at what learnings has taken place, during which time and under which leadership. Therefore, for organisations, where these types of observations are possible, one must look into the history to understand the culture, observe interactions amongst its members and decipher the levels of the culture to fully understand it. Schein's model of culture defines the structure of culture with three levels. These levels are artefacts, espoused beliefs & values and basic underlying assumptions, table 4.

Artifacts	*Visible and feel able structures and processes. Observed behaviours. Difficult to decipher* (Schein, 2017, p.18)
Espoused beliefs and values	*Ideas, goals, values, aspirations, ideologies, rationalizations* (Schein, 2017, p.18)
Basic underlying assumptions	*Unconscious, taken. For-granted beliefs and values. Determine behaviour, perception, thought and feeling.* (Schein, 2017, p.18)

Table 4: Schein's definitions of various levels of culture (Schein, 2017).

The observability of these levels range from easily observable artifacts to difficult observable basic underlying assumptions. In the contrast, the meaning of the three different levels reverse, i.e. artifacts are easily observed, but hard to understand, while basic assumptions are hard to observe but easier to understand.

Artifacts are the observable part of culture, basic underlying assumptions the core of culture and espoused values and beliefs the intermediate level in between.

Artifacts are phenomenons which you see, feel and hear when encountering a new culture, manifestations of the two underlying levels in structure of culture. Examples are architecture, language, clothing, manners, published lists of values, rituals and ceremonies. Observed behaviour routines and rituals, such as coffee breaks, are also artifacts. Organograms and process charts are also examples of artifacts. All these examples are quite easily observed but hard to understand, or decipher as Schein calls it, as previously stated. Also they are manifestations of deeper levels of culture. There is a pitfall in trying to understand artifacts. While trying to wrap your head around the meaning of artifacts, it is more the culture of the observer, than the culture studied, which decipher the true meaning of the artifacts. A case of projecting one's own culture to understand artifacts rather than using the studied culture to understand the artifacts. Therefore, assumptions about a culture cannot be made solely out of observable artifacts.

Espoused beliefs and values origin from moments when groups learn. Originally solutions come from a single person's ideas or beliefs. When groups are faced with a challenge, the first solution reflects an individual's assumptions about what is right or wrong. If the assumptions solve problems, members of the group will gradually stop challenge and debate that initial assumption, forget their uncertainties and eventually share that assumption. The assumption has then become a shared value or belief. However, not all assumptions make that transformation, from an individual's assumption to a shared value or belief. The assumption must be empirically tested and continuously work for the group. Furthermore, espoused values and behaviours are tricky to analyze. This is because there is three types of espoused values and behaviours. Those that are congruent with the underlying assumptions, the deepest level of culture, those that are an ideology of the organization, and those that are aspirations for the future. There can be differences in the desired behaviour compared to the observed behaviour. Schein uses an example of a company’s espousing teamwork while they reward individual competitiveness.

Basic underlying assumptions are the deepest level in the structure of culture. To decipher this level and truly understand it, one can predict future behaviours. Espoused values and beliefs can gradually become underlying assumptions. If the previous example of an assumption, solving problems for the group, stands the test of time and show repeated success, it can turn into a basic underlying assumption. Basic underlying assumptions are so taken for granted that you tend to see little variation, amongst individuals underlying assumptions, within a social unit. Behaviour which contradict the underlying assumptions will be seen as inconceivable. Examples of such behaviours would be to run a business at financial loss in a capitalist country or design unsafe products as an engineer. Changing and learning new underlying assumptions is difficult since it interfere with our cognitive structure and release large quantities of anxiety. Therefore, individuals tend to group with others that share the same set of assumptions as themselves.

2.3.2 Hofstede’s onion model of culture

Hofstede et al. (2010), describe the manifestation of culture with an onion model. The analogy to the onion is evident in the layers of the onion, such as in culture as well. Hofstede divide manifestations of culture into four layers. Symbols, the outer layer, values, the inner layer, and heroes and rituals, the layers in between symbols and values, figure 4. Hofstede classifies symbols, heroes and rituals as practices.

Practises, one aspect of culture, are more superficial in contrast to values, the deepest manifestations of culture. Practices are visual, however, the meaning of practices are interpreted by insiders of the culture.

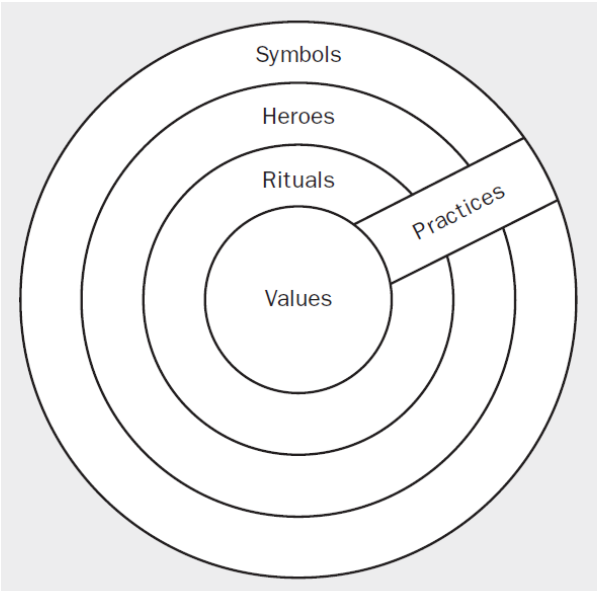

Figure 4: Hofstede et al.'s onion model of culture (Hofstede et al., 2010, p.8).

Symbols carry meaning to the ones who are participants of a culture. They are easily adopted by other cultures and easily exchangeable within a culture as well. Examples are words. Gestures, pictures, objects, jargon, dresses, hairstyles, and flags. Heroes are persons, dead or alive, real or imaginary, which serve as role models and are highly ranked within a certain culture. Rituals are collective activities, e.g. the way of greeting, social and religious ceremonies. Values are *broad tendencies to prefer certain states of affairs over others* (p.9). Values deals with pairings such as evil vs. good, or dangerous vs. safe. Hofstede's model applies to many sociological issues, however, values are obtained mostly in childhood, while practices are obtained later on in life. Therefore, organizations mostly deal with practices since values are obtained prior to their first contact with organizations.

2.4 National culture

According to Robbins & Judge (2017), two of the most important frameworks for norms in national cultures are Hofstede's dimensions and the GLOBE-studies. In this report, Hofstede et al. (2010) dimensions of national culture will be used to understand norms in national culture. Three of the arguably most known quality management concepts are total quality management (TQM), six sigma and lean. These three quality management concepts origin from Japan (Andersson, Eriksson & Torstensson, 2006). So called quality gurus, such as Deming and Juran are connected to Japan (Davies, 2001; Juran & De Feo, 2010). Other prominent quality experts, such as Ishikawa, origin from Japan (Davies, 2001). Therefore, national norms data of Japan, the "cradle of quality", and Sweden, the nation and context which Swedavia operates in, will be presented. However, a discussion regarding the differences, between Japanese and Swedish culture, and how it affects quality management in both of the countries will not be included in this thesis.

2.4.1 Hofstede's dimensions of national cultures

According to Robbins & Judge (2017, p.91), *one of the most widely referenced approaches for analysing variations among cultures was done by Geert Hofstede*. Hofstede's (1980) original study included 116,000 respondents of a questionnaire conducted in the multinational corporation IBM. During the six years long survey, 40 countries were eventually included in the database. Out of this original study, Hofstede (1980) formulated four dimensions which he used to define national culture. These four are power distance, uncertainty avoidance, individualism and masculinity, table 5. Between 1980 and 2010, two more dimensions were added. Long term orientation and indulgence (Hofstede et al., 2010). One should keep in mind that these dimensions characterize nations as whole and do not necessarily mean that every individual, within that nation, coincide to the national norm.

Dimension	Definition according to Hofstede et al. (2010)
Power distance	*The extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally* (p.61)
Uncertainty avoidance	*The extent to which the members of a culture feel threatened by ambiguous or unknown situations*. (p.191)
Individualism (vs. collectivism)	*Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family.* (p.92)
Masculinity (vs. femininity)	*A society is called masculine when emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life.* *A society is called feminine when emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life.* (p.140)
Long term orientation (vs. short term orientation)	*Long-term orientation stands for the fostering of virtues oriented toward future rewards—in particular, perseverance and thrift. Its opposite pole, short-term orientation, stands for the fostering of virtues related to the past and present—in particular, respect for tradition, preservation of "face," and fulfilling social obligations.* (p.239)
Indulgence (vs. restraint)	*Indulgence stands for a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun. Its opposite pole, restraint, reflects a conviction that such gratification needs to be curbed and regulated by strict social norms.* (p.281)

Table 5: Hofstede et al.'s definitions of dimensions (Hofstede et al., 2010).

Each nation in Hofstede's framework receives an index, based on the sum of individual questions. Individual's answer adds a certain score to the to the overall nation index. Dimension's range start at zero (0) and carries on to, roughly, a hundred (100). Most countries score in between zero and hundred. Therefore, it is a case of being more or less. Not the either or the other. For example, a country can be more masculine, while still being less feminine.

It is not only masculine just because it tends to the masculine side in the masculinity vs. femininity dimension (Hofstede et al., 2010). The rank is based on the 76 countries included in Hofstede's et al. 2010 book, "Cultures and Organizations: Software of the Mind".

Dimension	Range		Sweden		Japan	
	Low index	High index	Rank	Index	Rank	Index
Power distance	Small power distance	Large power distance	69-70	31	49-50	54
Uncertainty avoidance	Weak uncertainty avoidance	Strong uncertainty avoidance	72-73	29	11-13	92
Individualism	Collectivism	Individualism	13-14	71	35-37	46
Masculinity	Feminine	Masculine	76	5	2	95
Long term orientation	Short term orientation	Long term orientation	37	53	3	88
Indulgence	Restrained	Indulgent	8	78	49-51	42

Table 6: Rank and index of Sweden and Japan in Hofstede et al.'s dimensions (Hofstede et al., 2010).

2.4.2 The implications of national culture on quality management

Lagrosen (2003) tested a set of hypotheses regarding the correlation between Hofstede's (1980) dimensions and part of Bergman & Klefsjö's (2012) core values of TQM. Part of Bergman and Klefsjö's (2012) core values are customer orientation, leadership commitment, full participation, business process focus, and continuous improvements. The study was conducted in multinational company, where managers from 49 countries answered a questionnaire. Significant correlations were found between customer orientation and uncertainty avoidance, customer orientation and individualism, and business process focus and uncertainty avoidance. Thus, Lagrosen concluded, uncertainty avoidance and individualism-collectivism are the dimension in Hofstede's framework which mainly affect quality management. According to Lagrosen (2003, p.484) countries like Sweden (weak uncertainty avoidance and individualistic) *will fairly easily adopt business process focus and continuous improvements.* However, Hansson & Klefsjö (2003) argues that when implementing TQM, organizations should start with parts of the core values of TQM - committed leadership, everybody's commitment and customer orientation.

According to Mathews et al. (2001, p.701-702), *management tends to choose* [quality] *tools that suit the deeper assumptions they have; furthermore, the staff are more likely to accept tools that are in line with their prevailing culture.* Furthermore, Mathews et al. (2001) claims there is differences in TQM implementation approach, varying from nation to nation. However, the national culture have not yet to be used as an substantive explanation. Lagrosen (2003, p.474) claims *there have been relative few studies on the interface between culture and quality management*.

In Cameron & Sine's (1999) study, they found no significant impact from national culture on quality culture. However, Cameron & Sine (1999) concluded that a change in quality culture is needed if TQM shall reach its potential and enhance organizational performance. In Cameron & Sine's study, the organization which possessed a more advanced quality culture showed higher level of performance.

Tata & Prasad (1998) argues that organizations in nations with small power distance, such as Sweden, are more likely to succeed in TQM implementations, due to the effect national culture has on organizational culture. Also, due to the weak uncertainty avoidance in Sweden, organizations are more likely to implement TQM effectively (Tata & Prasad, 1998).

2.5 Organizational culture

Hofstede et al. (2010) defines corporate culture as a holistic concept. The impact of organizational culture is powerful and results in hard consequences (Hofstede et al., 2010; Juran & Defeo, 2010; Schein, 2004). Organizational culture affects the implementation of TQM (Sousa-Poza, Nystrom & Wiebe, 2001) According to Cameron & Quinn (2011), there are a variety of proposed, from several writers, dimensions and attributes which define organizational culture. The reason for the variation and broad of these dimensions and attributes correlates to the fact that organizational culture itself is extremely broad and inclusive in its scope. Some factors, which one might argue to be important may be included in one framework while it might be excluded in another. However, the key is to establish a framework which include the most important factors.

One framework will not always be right, while others are wrong. Neither is one framework comprehensive enough to cover all the factors which, could be argued for, is important while describing an organizational culture. According to Hofstede et al. (2010), the main difference in the definition of organizational culture, among authors, is whether culture is something organization has or organization is. Hofstede et al. argues that culture is something organization has, due to their shared practices and not shared values. In this thesis, the framework of Schein (2017) and Hofstede et al. (2010) will be used to understand the structure of organizational culture, presented in the section "Culture", and respective subsection.

2.6 Quality culture

According to Cameron & Sine (1999), quality culture, within an organisation, can be seen as a subset of the organizational culture. Such a subset of organizational culture is improvement culture. Developing an improvement culture within organisations was ranked as the fourth most important quality challenge facing organizations (Eriksson et al., 2016). According to Cronemyr, Bäckström & Rönnbäck (2017), there is little agreement of what the content of quality culture actually is. Cameron & Sine (1999, p.10) claims that quality culture "reflects the general approach, the values, and the orientation toward quality that permeate organizational actions".

Combining practitioners and academia view on quality, Cronemyr et al. (2017) established values which quality culture consists of. These values are:

● Customer orientation (CO) ● Process orientation (PO) ● Committed management (CM)	● Participation and cooperation (PAC) ● Continuous improvements (CI) ● Base decision on facts (BDOF)

Table 7: The values of quality culture (Cronemyr et al., 2017).

These values are used in this thesis and in the quality culture survey used in the project. However, quality culture can also been seen as a something more than just a set of values. Cameron & Sine (1999) defined four types of quality cultures (absence of quality emphasis, error detection, error prevention, and creative quality). Ranging from less advanced (absence of quality emphasis), to a more advanced (error prevention), to the most advanced (creative quality culture), the various quality cultures possess various characteristics, table 8. Error detection falls in between less advanced and more advanced.

Less advanced	More advanced	Most advanced
● Lower levels of organizational effectiveness ● Less use of standard quality tools and techniques (for example, ISO 9000 processes) ● Less emphasis on gathering, analyzing, and utilizing data on customers, competitors, employees, and performance ● Less evidence of organizational learning ● Less cross-functional coordination ● Less teamwork among employees ● Less focus on optimally utilizing human resources ● Quality not a high management priority	● Higher levels of organizational effectiveness ● Implementation of standard quality tools and techniques (for example, ISO 9000 processes) ● A great deal of attention to gathering, analyzing, and utilizing data on customers, competitors, employees, and performance ● Evidence of organizational learning ● Cross-functional coordination ● Teamwork among employees ● Emphasis on optimally utilizing human resources ● Quality a high management priority	● Simultaneous emphasis on organizational learning (change), stability, and control (quality assurance tools) ● Involvement of everyone in the organization in quality improvement ● Alignment of the organizational structure with quality objectives ● Active use of human resource systems to support and reward quality processes, procedures, and accomplishments ● Modelling and mentoring of quality principles from the top leadership

Table 8: Cameron & Sine's characteristics of quality cultures (Cameron & Sine, 1999.

2.7 Aligning cultural layers

In the book "Toyota Culture: The Heart and Soul of the Toyota Way", Liker & Hoseus (2008) mention the struggle Toyota had when they opened up a new factory in Kentucky, US. Aligning the Toyota organizational culture with various cultural levels existing in the region is a difficult process due to the various levels of culture not being uniform. This is in no regard an explicit problem in Kentucky, US. These various levels of culture is illustrated in figure 5. Toyota had to adapt their company culture to the higher levels of culture, e.g. national culture, while maintaining the core beliefs in the organizational culture. Exporting a culture is not an easy task.

In fact an exact transfer of a culture, from one context to another, is a task greater than a company like Toyota can complete. The secret to success seems to lie in adoption, at least for Toyota. Adaptation to the higher levels of culture while remaining the core values and beliefs of Toyota. Liker & Hoseus (2008, p.19) states that "Ultimately the ability to absorb the company's culture lies in people's heads, in how they think, act, and react to different circumstances".

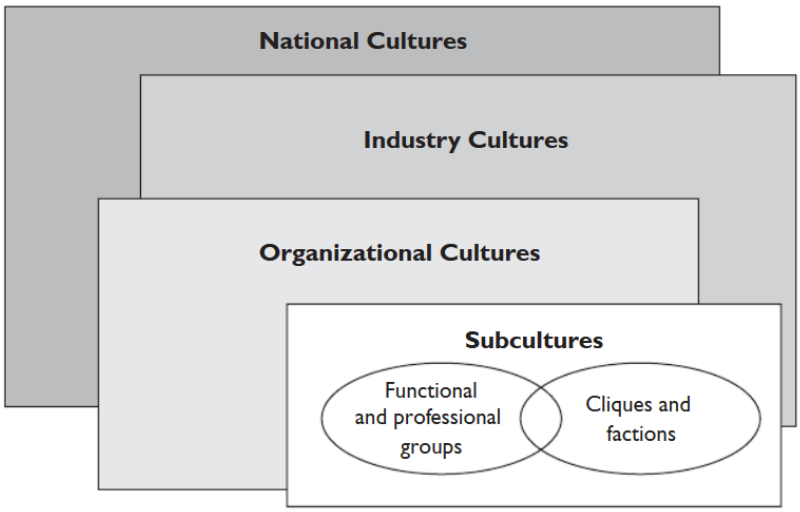

Figure 5: : An example of various layers of culture (Liker & Hoseus, 2008, p.18).

Hofstede et al. (2010) mentions layers of culture as well. Layers which we as individuals carry unavoidably. These layers are several and each represent different levels of culture. The layers, and corresponding level of culture, varies from individual to individual. Some examples of these levels of culture are:

- National
- Regional
- Religious
- Gender
- Generation
- Social class

These levels are not always aligned, or in harmony as Hofstede calls it. For example, one's religious level of culture may be in conflict with the level of national culture. According to Hofstede, a conflict of these layers, within an individual, makes it difficult to anticipate behaviour in new situations.

Robbins & Judge (2017, p.312) argues that *organizational culture is so powerful that it often transcends national boundaries. But that does not mean organizations should, or could, ignore national and local culture.*

2.8 Assessing culture

There are various ways of studying organizational culture (Schein, 2017). According to Schein (p.255), "the method should be determined by the purpose". Methods for collecting cultural data varies along two dimensions, involvement of the organizations, being studied, and involvement of the researcher, figure 6 (Schein, 2004).

	Level of Researcher Involvement	
Level of "Subject" Involvement	*Low to Medium; Quantitative*	*High; Qualitative*
Minimal	Demographics: measurement of "distal variables"	Ethnography: participant observation; content analysis of stories, myths, rituals, symbols, other artifacts
Partial	Experimentation: questionnaires, ratings, objective tests, scales	Projective tests; assessment centers; interviews
Maximal	Total quality tools such as statistical quality control; action research	Clinical research; organization development

Figure 6: Schein's various methods of assessing culture (Schein, 2004, p.205).

When studying an organisation, one should not get too involved with the deep level of the culture too soon (Schein, 2017). At first, one must experience it from an artefact level via deep observations. In this observation state, it is suitable to look for claims and hearings about goals and values in the company. Later on, to really understand the basic assumptions, and the culture itself as a whole, can be a formidable task. Gathering valid data from a complex human system is difficult. Schein sees it as *an intervention into the life of the organisation.* When humans are involved in a study, there is always an element of resistance or hiding data. Therefore, Schein advocate convincing the studied organisation, and the concerned individuals within it, to feel helped. They must be motivated to share.

The cultural data becomes more valid once the sense of feeling helped has been established. Also, it is important to remember that studying an organisation will perturb it in unknown ways. According to Schein, surveys and questionnaires has its limitations in understanding culture. Interviews are more enriching. However, interviews are time-consuming. Simply put, there is no easy way of gathering cultural data. Therefore, one must be careful when making decisions upon cultural data. According to Schein (p.265), "If decisions are made on the basis of incorrect assumptions about the culture, serious harm could be done to the organization.

Such errors are most likely to occur if culture is defined at too superficial a level—if espoused values or data based on questionnaires are taken to be an accurate representation of the underlying assumptions without conducting group and individual interviews that specifically dig for deeper assumptions and patterns (Schein, 2017).

Schein (2017) mentions several issues of using surveys to measure culture within an organisation. Some of these issues are listed below. For further information, see Schein (2017, ch.14)

- Not knowing what to ask
- Employees may not be motivated to be honest
- Employees may not understand the questions or may interpret them differently
- What is measured may be accurate but superficial
- The sample of employees surveyed may not be representative of the key culture carriers

Even though Schein is not a prominent advocate of using surveys to measure culture, he identifies situations where surveys can be useful and appropriate. One, out of a few, situation where surveys are useful is when giving an organization a profile. The profile is not the culture itself. The profile can be used to stimulate deeper analysis of the organizational culture via other methods. Surveys gives more when it comes to comparing multiple organisations and less when studying a single organisation in itself.

2.9 Changing culture

The actual change of culture is not a major part of this thesis. However, in order to avoid being one of those authors, in the field of quality management, which either focus on *what to do* or *how to do it* (Sousa & Voss, 2002), the authors of this thesis find it crucial to involve a section of cultural change as well. As Kurt Lewin supposedly once said; "If you want truly to understand something, try to change it". Thus, in this section two fundamental aspects of culture will be shortly analysed. Firstly, is it possible to change culture? Secondly, how can culture be changed? Some parts might be difficult to understand, partly due to the information and partly due to the terminology. Either way, the authors encourage interested readers to read references for further information.

2.9.1 Is it possible to change culture?

Many authors argue that changing culture is possible, even though it is hard (Schein, 2017; Hofstede et al., 2010; Juran & Defeo, 2010; Robbins & Judge, 2017; Santos-Vijande & Álvarez-González, 2007; Gimenez-Espin et.al., 2013) Changes are hard for the individuals involved since changes include high levels of anxiety (Schein, 2017). According to Hofstede et al. (2010), in the case of organizational culture, authors disagree how difficult it is to change. In Juran & Defeo's (2010) transformation model, culture is the most difficult and time-consuming change. Furthermore, they claim that is so widely misunderstood that the change most often fails.

Therefore, the question to ask is not if cultural change is possible but, in which extent cultural change is possible and how hard is it to change? In the case of Toyota establishing a factory in Kentucky, it took them about 15 years to adapt the Toyota Culture to the local context (Liker & Hoseus, 2008). However, important for all quality practitioners to know is that *financial results will occur long before a cultural change takes place* (Juran & Defeo, 2010, p.310).

Deeper levels of culture are harder to change (Schein, 2017; Hofstede et al., 2010). Hofstede et al. (2010), argues that cultures do change. However, it is the practices that change, not the values. The difference between national and organizational culture is the mix of values and practices. Values are acquired in our early years, when we are influenced of national culture. Organizational culture deal with practices, since we get in contact with organizations later in life, figure 7.

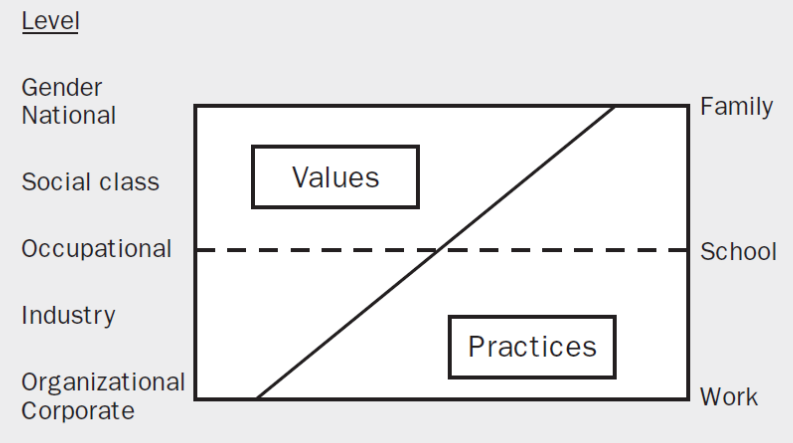

Figure 7: Acquisition of values and practices (Hofstede et al., 2010, p.347).

Hofstede et al. base their information on a study conducted by the Institute for Research on Intercultural Cooperation (IRIC) between 1985 and 1987. According to Hofstede et al. (2010) the IRIC-study showed:

- The roles of values and practices in national culture is the opposite in organizational culture.
- *Shared perceptions of daily practices should be considered the core of an organizational culture* (Hofstede et al., 2010, p.348)
- Employees values differ more according to gender, age, education, and nationality. Less according to the organization.
- Values spread among founders and key leaders. The values becomes practices for employees. Thus, values of key leaders affect the organization via shared practices. Values do not spread to employees.
- Since values are not acquired in organizations or spread from leaders, the way organizations can affect the values amongst its employees is through hiring processes.

Hofstede et al. (2010, p.371) conclude that *changing collective values of adult people in an intended direction is extremely difficult, if not impossible.*

2.9.2 How to change culture

According to Lewin (1947), individuals and groups reside in a quasi-stationary equilibrium. The equilibrium is due to driving forces acting for change while restraining forces, of the same extent as the driving forces, acting against change. In the field of change management and psychology, resistance to change (restraining forces) is mentioned as a major obstacle to overcome in the change process (Schein, 2017; Lewin, 1947; Nevis, 1987). To make a change, the driving forces must be greater than the restraining forces. The driving forces can

be increased, the restraining forces decreased or a combination of the two aforementioned (Robbins & Judge, 2017). However, according to Schein (2017), two principles are crucial when new learning occur. First, survival anxiety must be greater than learning anxiety, and second, learning anxiety must be reduced rather than increasing survival anxiety.

The culture of a group share beliefs, values and behaviours which origin from the establishment of the culture (Schein, 2017). These beliefs, values and behaviours was present during the establishment of the group which made it successful. According to Robbins & Judge (2017), the founders of an organization is the ultimate source of organizational culture. Over time, the shared beliefs, values and behaviours become taken-for-granted and rooted deep within the culture of a certain group and can not be striven away from, since they form the stability of the culture (Schein, 2017). Any cultural-change that comes along must be consistent with the shared beliefs, values and behaviours from the past or the group itself must be changed.

Many authors argue that leadership is crucial in cultural change (Schein, 2017; Hofstede et al., 2010; Liker & Houses, 2008; Robbins & Judge, 2017), in quality management (Juran & Defeo, 2010; Bergman & Klefsjö, 2012; Hellsten & Klefsjö, 2000) as well in organizational change (Kotter, 2007; Schein, 2017). Schein (2004) see culture and leadership as the same side of a coin, they interact. Culture shape leaders and leaders shape culture. Thus, in making a cultural change a true leader must be able to break the status quo and shape the culture in a new way instead of just being the product of the past and present culture. The desired state of change must be reinforced in the way leaders act and behave, i.e. “walk the talk” (Liker & Hoseus, 2008).

Other aspects crucial in making a change are; creating a vision (Kotter, 2007; Liker & Hoseus, 2008), establishing a sense of urgency, reason and/or disconfirming data (Kotter, 2007; Liker & Hoseus, 2008; Schein, 2017), involve the right people in the change process (Kotter, 2007; Hofstede et al., 2010; Liker & Hoseus, 2008), support affected employees (Liker & Hoseus, 2008; Schein, 2017;) break the change in to smaller steps (Kotter, 2007; Liker & Hoseus, 2008), make a plan and/or a strategy (Kotter, 2007; Liker & Hoseus, 2008; Hofstede et al., 2010).

2.10 Literature Review Conclusion

Business excellence models are designed to set standard performance benchmarks of key areas within quality work. In one way, they provide a framework for how successful organizations work with quality (Asher et.al., 2015). When comparing the business excellence models of famous organizations and institutes to each other, there are both similarities and differences. However, they all seem to agree that leadership, customers, people, improve and innovate, agility and sustainability are important themes in successful quality management.
Differences occur in the fields of relationship with suppliers and partners, processes, system approach and perspective, and future perspective (Eriksson et. al., 2016).

Culture seem to be a complex issue in many aspects. First, culture is nested and affected of various layers of culture. Such layers are national, organizational and quality culture. Second, culture manifest itself in various levels. Both Schein (2017) and Hofstede et al. (2010) argues that the core in their respective models is what culture ultimately consist of. Third, culture is hard to analyse and even harder to change.

3. Methodology

In this section, the method used in the project and the quality culture survey will be described in respectively separate subsections. While the project method will include a brief description of the idea behind the survey, details about the design and the analysis that follows will be described separately.

The project involved a single case study of Swedavia's quality culture. A survey was used to profile the quality culture. The survey is a quantitative method. To complement the quantitative method, the authors conducted a qualitative assessment of Swedavia and its quality culture. These both served as data collection methods. However, limited resources were given to the qualitative study and thus limited findings from the qualitative method is presented in the chapter 4. A major part of the project centred around the quantitative survey method, and thus a major part of the analysis is centred around the survey.

According to Schein (2017, p.255), *the method should be determined by the purpose.* The purpose in this study is to profile the quality culture of Swedavia, not to study the quality culture in depth. The authors of this thesis argues that it is better to start with a profile of the quality culture. This creates possibilities to rather quickly determine *what* the quality culture look like, i.e. the profile of the quality culture. Then, one can ask *why* does it look like this? The *what* creates questions of *why.* However, this study centres around *what*, and not *why.* According to the authors*,* the main advantages of a quantitative method are (1) a greater quantity of respondents can be included, and thus the data from the survey corresponds to a greater part of the organization, (2) the results are uniform and easily comparable, (3) differences between division, departments, etc., can easily be observed. The main idea of the survey was to profile the quality culture in a vast part of the organization. The result from the survey can then be used to identify parts of the organization which are prominent in regards to behaviour. Such a part of the organization can then be studied in greater detail via a qualitative study. Also, to include a vast part of the organization, from top to bottom, enables the possibility of identifying values and to examine how they have spread in the organization.

3.1 Data Collection Methods

The project is quite comprehensive in its scope and deal with complex issues, such as human systems. Therefore, a large portion of the project is focused at information gathering, via various sources. The main source of information, in this project, comes from literature. Other sources of information comes from the survey and observations at Swedavia.

Culture is complex and rooted in various levels (Schein, 2017). The survey includes two parts. The first is about perceived performance and the second about perceived importance. Perceived performance is about behaviours and perceived importance is about values. Behaviours are artifacts in Schein's (2017) model. Artifacts are easy to observe but hard to decipher (Schein, 2017). Thus, behaviour is superficial in a sense. Values are rooted in the middle level of Schein's model. Compared to behaviours, values lies closer to the essence of culture. Behaviours and values are manifestation of underlying assumptions. However, either behaviours or values is the foundation of culture in Schein's model. Underlying assumptions are harder to study, and thus it was not possible to conduct a study of underlying assumptions in this project. The time was simply not enough to perform such a study in any quantitative population.

Therefore, it is important to notice that the study of quality culture at Swedavia is just a profile of culture. Not enough data has been gathered to claim that this study is a study of culture.

3.1.1 Quality Culture Survey

The survey is based on a recent project initiated by the Swedish quality organization SQMA, which resulted in a tool intended to measure the quality culture within a company or organization (Cronemyr et.al., 2017). It is based on quality values that supposedly describe a quality culture, as well as a couple of behaviours that either supports or obstruct the values. The original values and behaviours can be seen (in Swedish) in Figure 8 below. Each value has two pairs of behaviours linked to them except for "committed leadership" which has three.

Värderingar	***Kund-orientering***	***Process-orientering***	***Engagerat ledarskap (*Proaktivitet)***	***Allas delaktighet/ samverkan***	***Ständiga förbättringar***	***Basera beslut på fakta***
Stödjande beteende #1 *vs.*	Vi arbetar gemensamt för att tillgodose kundens behov.	Vi samarbetar mellan avdelningar och funktioner när vi utvecklar vår verksamhet.	Våra ledare uppmuntrar förbättringsförslag och hanterar problem som en möjlighet till förbättring.	Vi arbetar för att nå verksamhetens övergripande mål.	Vi utvärderar och förbättrar våra arbetssätt.	När vi har ett problem tar vi reda på grundorsaken innan vi beslutar om en lösning.
Hindrande beteende #1	I vår verksamhet löser speciellt utsedda personer kundens problem.	Vi fokuserar på att utveckla vår verksamhet inom gruppen och den egna avdelningen.	Våra ledare utgår ifrån att vi gör rätt från början för att undvika problem.	Vi arbetar för att nå vårt teams mål.	Vi löser problemen när de uppstår.	Vi löser problem så snabbt och enkelt som möjligt.
Stödjande beteende #2 *vs.*	Vi tar reda på vad kunderna har för behov och förväntningar och anpassar våra produkter och tjänster efter detta.	Vi följer våra överenskomna riktlinjer och arbetssätt.	Våra ledare frågar efter kundkonsekvenser i beslutssituationer.	Vid utveckling av verksamheten involveras alla medarbetare utifrån kompetens.	Vi arbetar strukturerat med förbättringar.	Vi samlar in information och mätresultat som vi använder när vi utvecklar verksamheten.
Hindrande beteende #2	Vi tar fram så bra produkter och tjänster som möjligt. Dessa erbjuder vi till kunder.	Vi väljer individuellt hur vi vill arbeta.	Våra ledare frågar efter effektivitet i beslutssituationer.	Vårt förbättringsarbete hanteras av våra ledare eller specialister.	Vi arbetar situationsanpassat med förbättringsarbete.	Vi utvecklar verksamheten baserat på kunskap och erfarenheter från våra medarbetare.
Stödjande beteende #3 vs.			Våra ledare prioriterar förebyggande arbete.*			
Hindrande beteende #3			Våra ledare prioriterar lösning av uppkomna problem.*			

Figure 8: The original values and behaviours that were presented in SQMA's report (Cronemyr, Bäckström, Rönnbäck, 2016, p.9).

The survey is divided into two main parts. The first part measures perceived performance, in other words it measures which values that are strong and which that are weak within the organization today. The second part measures which values that respondents rate as most important and desirable. Both parts use a likert scale with seven grades to separate two statements. While likert scales has received criticism due to the fact that for example, there is an issue of "balance" between the ratings (Bishop & Herron, 2015), it seemed to be the best alternative for this study.

The first part involves 13 questions, where each question is linked to one pair of behaviours (there are 13 pairs). The supporting behaviour is presented on one side, and the obstructing on the other. The positioning (left side or right side) of the supporting and obstructing behaviour is randomized, so that respondents can not see a trend. Respondents are asked to evaluate which behaviour that occurs the most at their workplace today. An example is presented in Figure 9. This particular question is related to the value "process orientation". In this example, an answer to the far left would yield one point to the value "process orientation", indicating that only the obstructing behaviour is present within the organization today. An answer to the far right would instead yield seven point to the same value, since that is where the supporting behaviour is placed.
The scale between those two extremes is linear, so that for example an answer in the middle would give four points to both the supporting and obstructive behaviour. If none of the behaviours occurs, respondents are asked to leave the question unanswered. Note that this is not a screenshot of the SQMA version, but rather a screenshot of the Swedavia survey.

Figure 9: A screenshot from the first part of survey used at Swedavia.

The second part of the survey is designed to measure importance. In this part, the questions are based on a model called the Trade-Off Importance Model (Gregorio & Cronemyr, 2011). The main purpose for using this model is to avoid the "everything is important" mentality where organizations tend to rate everything as very important (Cronemyr et.al., 2017). While the basic layout resembles part one in many ways, there are a few key differences. In part two, the behaviours are replaced with hypothetical scenarios. Each scenario consists of one supporting behaviour and one obstructing behaviour. For example, the supporting behaviour of "committed leadership" and the obstructing behaviour of "participation and cooperation" as seen in Figure 10. The opposite side presents a different scenario that describes a reversed situation, with the supporting behaviour of "participation and cooperation" and obstructive behaviour of "committed leadership". The respondent is then asked "which scenario would you prefer, if you had to choose?".

In this example, an answer to the far left would yield 7 points to the value "committed management" and one point to "participation and cooperation". The scaling is linear in this case as well. Since respondents has to choose, there is no way of leaving these questions unanswered.

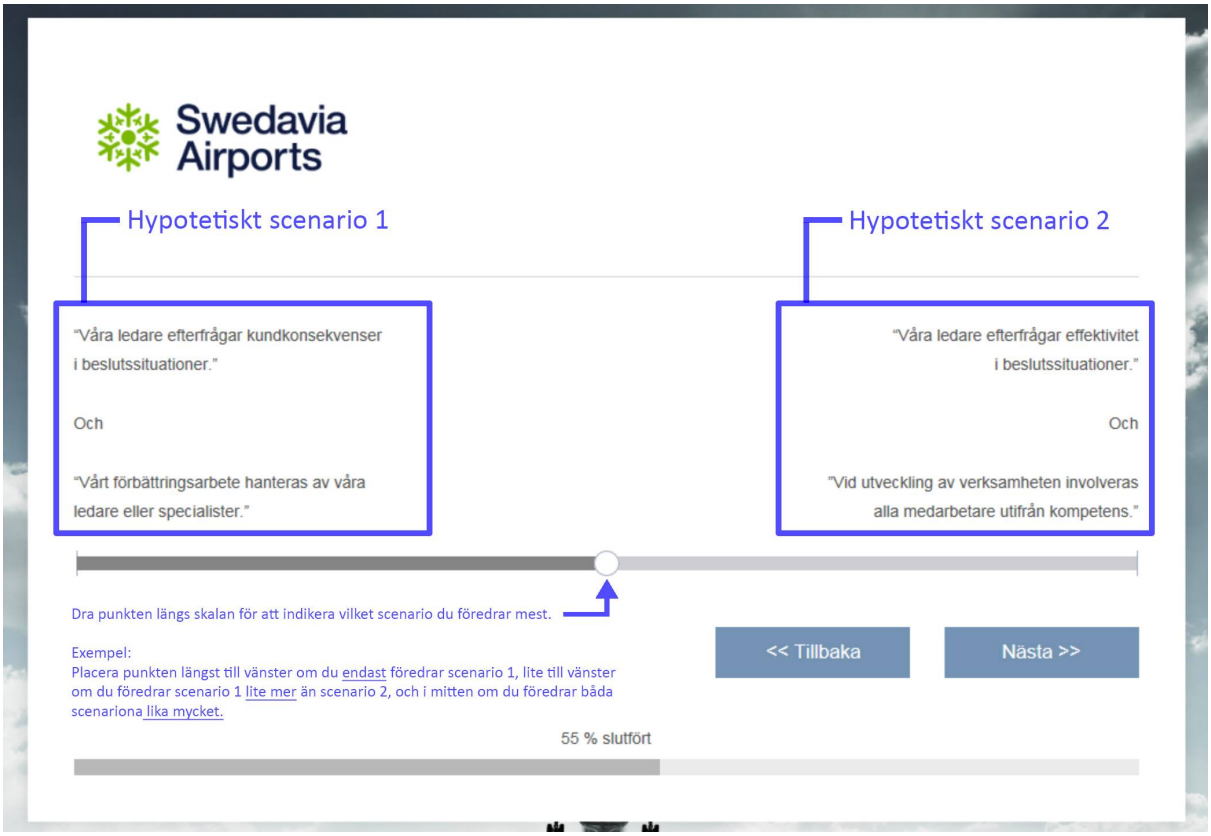

Figure 10: Example of a question in the second part of survey.

The survey was then sent out digitally to 43 managers within different divisions of Göteborg Landvetter Airport. In total 29 answers were received, which makes up for an overall response rate of 67%. The answers were analysed in Excel and SPSS. SPSS is a popular tool for statistical analysis. This is described further in section 3.1.1.2.

3.1.1.1 Changes made to the original version

Initially, the survey used in this project was solely based on the original version by SQMA. However, during a survey testing of a small group within Swedavia, concerns were raised regarding the second part of the survey (intended to measure importance). In the SQMA version, the first pairs of behaviours (#1 in Figure 8) for each quality value were used in order to create the scenarios. Many of the attendants however thought the scenarios were too complicated and hard to understand, primarily due to the length and complexity of the statements. Additionally, some combinations of supporting and obstructing behaviours created a context that allegedly blurred the perceived meanings of the individual behaviours. It was therefore decided that the first pairs of behaviours (#1) should not be used exclusively, but rather the ones that were perceived as short and easy to understand - utilizing the second pairs (#2) as well.

In some cases, the text was slightly shortened compared to the SQMA version, merely by removing one or two filler-words. The new version did not deviate from the underlying research performed by SQMA, as the new scenarios were still based on the 13 pairs of behaviours presented in the SQMA report. It was concluded that this would not hurt the result of the analysis, as the behaviours still described the corresponding values. The new pairs can be seen in Table 9 (in Swedish).

Värderingar	**Kund-orientering**	**Process-orientering**	**Engagerat ledarskap**	**Allas delaktighet**	**Ständiga förbättringar**	**Basera beslut på fakta**
Stödjande beteende #1	Vi arbetar gemensamt för att tillgodose kundens behov.	Vi samarbetar mellan avdelningar och funktioner när vi utvecklar vår verksamhet.	Våra ledare uppmuntrar förbättringsförslag och hanterar problem som en möjlighet till förbättring.	Vi arbetar för att nå verksamhetens övergripande mål.	Vi utvärderar och förbättrar våra arbetssätt.	När vi har ett problem tar vi reda på grundorsaken innan vi beslutar om en lösning.
Hindrande beteende #1	I vår verksamhet löser speciellt utsedda personer kundens problem.	Vi fokuserar på att utveckla vår verksamhet inom gruppen och den egna avdelningen.	Våra ledare utgår ifrån att vi gör rätt från början för att undvika problem.	Vi arbetar för att nå vårt teams mål.	Vi löser problemen när de uppstår.	Vi löser problem så snabbt och enkelt som möjligt.
Stödjande beteende #2	Vi tar reda på kundernas behov och anpassar våra produkter/ tjänster efter detta.	Vi följer våra överenskomna riktlinjer och arbetssätt.	Våra ledare efterfrågar kundkonsekvenser i beslutssituationer.	Vid utveckling av verksamheten involveras alla medarbetare utifrån kompetens.	Vi arbetar strukturerat med förbättringar.	Vi samlar in information och mätresultat som vi använder när vi utvecklar verksamheten.
Hindrande beteende #2	Vi tar fram så bra produkter/ tjänster som möjligt. Dessa erbjuder vi till kunder.	Vi väljer individuellt hur vi vill arbeta.	Våra ledare efterfrågar effektivitet i beslutssituationer.	Vårt förbättringsarbete hanteras av våra ledare eller specialister.	Vi arbetar situations-anpassat med förbättrings-arbete.	Vi utvecklar verksamheten baserat på kunskap och erfarenheter från våra medarbetare.
Stödjande beteende 3			Våra ledare prioriterar förebyggande arbete.			
Hindrande beteende 3			Våra ledare prioriterar lösning av uppkomna problem.			

Table 9: Different values and behaviours used in the survey. Blue boxes: Pairs used in the second part of the survey used in this master thesis.

The first part or the survey had the exact same structure as the first part of the SQMA version.

3.1.1.2 Statistical Procedures of Survey Results

The analysis included various parts, inspired by the report by Cronemyr et.al. (2017). Box plots, bar charts and histograms were used to illustrate the result. For each individual

respondent, the mean score within each of the quality values in both part one and part two was calculated.

For example, part one had two questions related to “customer orientation”. Given that a respondent gives five points to the value in the first question, and seven points in the second question, the mean would be six. These means were then used to analyse results. Analysis of variance (ANOVA) was used to determine whether the differences between ratings of quality values were statistically significant or not. More in-depth descriptions are provided in chapter 4.1.3.

3.1.2 Observations

Observations of the organizational culture was conducted in a simplistic, limited manner. The organizational culture was observed via documents, public website and intranet. Since all observations was gathered without direct contact with the people present in the organization, the data becomes hard to decipher. Culture becomes evident in the interaction between individuals (Schein, 2017). Also, most observations was made in the artefact level in Schein's (2017) structure of culture, meaning they become difficult to decipher for someone outside the culture.

3.2 Delimitations

A major delimitation in this project is time. To make a proper study of a culture, analysing the core or the deeper parts of culture, is a formidable task (Schein, 2017). The authors of this thesis estimated that such deep analysis of Sedalia’s organizational culture would require a time-consuming, qualitative approach. Instead, a quantitative approach, in the form of a survey, was used. Quantitative approaches are delimiting in cultural studies (Schein, 2017). Therefore, it is important to notice that this thesis include profiling of Swedavia's quality culture and not a full, extensive study of Swedavia's organizational culture. Another limitation was encountered during the project. Due to a management decision, the survey was conducted in Swedavia’s Gothenburg Landvetter office only. Only management was requested to participate. This is a delimitation in two aspects; it reduced the survey to 43 respondents (where only 29 responded) and it gives a geographical distinction. Swedavia have ten airports, with various numbers of employees working at each. Stockholm Arlanda is the biggest airport. It is also the head office of Swedavia. In total, Swedavia has roughly 3000 employees. With such a distinct geographical limitation and only roughly one percent of Swedavia's employees surveyed, it is hard to tell if a subculture has been studied or if the findings ring true for Swedavia as a whole. To summarize, the delimitations in this project are time, method and restrictions.

3.3 Ethics

According to Bryman & Bell (2011, p.128), Diener & Crandall (1978) established four main areas of ethics in business research. *Harm to participants, lack of informed consent, invasion of privacy, and deception*.
In the survey, the respondents are anonymous in a great degree. The survey include a part where the respondent must choose his/her organizational unit. Other than that, the respondent is totally anonymous. The part was added in this project and is not included in the tool developed by SQMA.

The idea behind this part was to see how values have spread in the organization, from top management throughout the whole organization. However, as mentioned in delimitations (ch 1.3), the survey was restricted locally to the Swedavia's Gothenburg Landvetter office.
In general, the authors believe the survey is quite harmless to the respondents. After all, they are anonymous. To avoid *lack of informed consent* and *deception*, the survey included a thoroughly detailed part of why the survey was conducted and how the results was going to be used. However, since behaviours and values was surveyed, in a partly disguised manner, one could argue that the survey is invasion of privacy, deceptive and lacking in consent. Behaviours and values were surveyed via statements that did not fully inform the respondent of the process behind it. They were only told that the statements in part one regarded behaviour and part two regarded values. Not how the answers correspond to the six parts included in the definition of quality culture used in this report. In the end, it is important for the respondents to recognize the survey as a helping hand, not designed at all to cause any harm.

4. Analysis

4.1 Survey Result

The result of the survey can be analysed in various different ways. In this section, the means of each quality value, the correlations between them, variation within the organization, consistency in answers and significance of differences will be investigated. The results will be presented and illustrated with graphs and tables. The response rate was 67% as 29 out of 43 people answered the survey.

When examining the overall result, customer orientation had the highest mean both in terms of perceived performance (4,41) and perceived importance (4,19), indicating strong awareness of this quality aspect within the organization. Continuous improvement was by far the lowest rated value with a mean of 3,64 in part one and 3,70 in part two. Hence, this value is probably not that prominent within the organization.

As seen in Table 10 the differences between means were rather small. Similar results were presented in the examples given in the report describing the tool, however, the differences between the values were still perceived as relevant and interesting to analyse (Cronemyr et.al., 2017).

	Customer Orientation	Process Orientation	Committed Manage-mint	Continuous Improvements	Participation and cooperation	Base Decisions on Facts
Performance Mean (Part 1)	4,41	4,12	4,21	3,64	4,24	3,84
Importance Mean (Part 2)	4,19	3,99	3,82	3,70	4,14	4,16

Table 10: The means of each quality value based on all answers in the survey.

The bar charts below (Figure 11) illustrate the same data that is shown in Table 10 above. The biggest differences between performance and importance lies in committed management, which had strong performance and low importance, as well as base decisions on facts, which had low performance but high importance. Appendix A includes histograms of all answers.

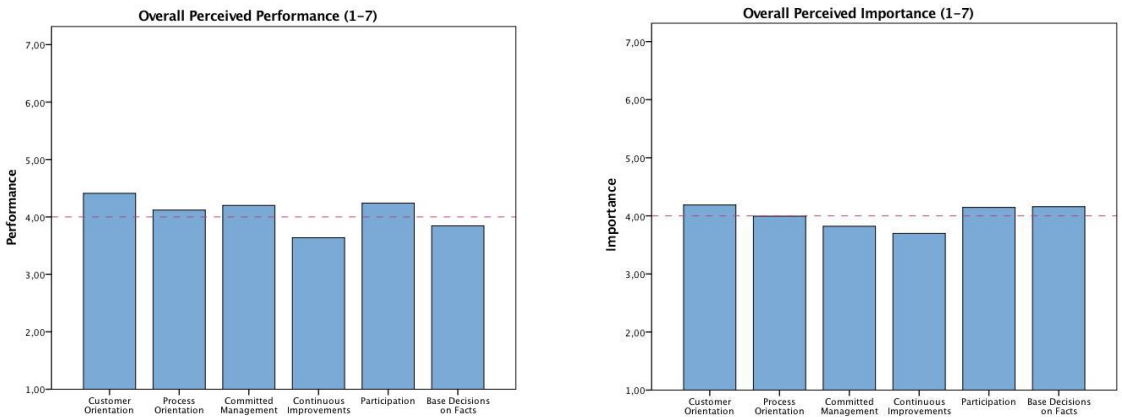

Figure 11: Bar charts illustrating the overall result of the survey. The dotted line indicates the middle value (4.0).

4.1.1 Variation within the organization

Another thing that could be analysed was whether the respondents within the organization had similar views and opinions. All the answers were plotted using a boxplot (Figure 12), showing the mean, median, spread in answers and outliers. The blue boxes shows the second and third quartile of answers. The whiskers are calculated with a method called Tukey's Fences. The red dot represents mean, the black line median and the "+" sign the outliers. The overall spread was relatively large. Participation and cooperation had the lowest spread, which implies that respondents had similar opinions. Committed management had the highest, suggesting the opposite.

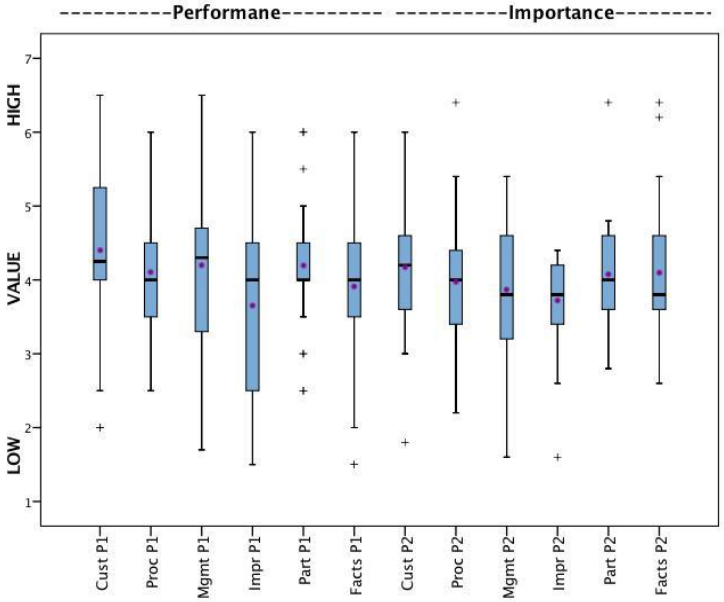

Figure 12: Box plot showing variation in answers.

4.1.2 Importance Performance Analysis Model

The Importance Performance Analysis Model (Martilla and James, 1977; Slack, 1994) used to illustrate where Swedavia need to put in more effort in order to strengthen their quality culture. Since the range of the answering scale is 1-7, the means were expected to end up close to 4.0. However, as discussed by Cronemyr et.al. (2017), it requires a quite significant difference in responses to move the average away from 4.0. The results were therefore ranked and given a score using the formula $score = 10 - \frac{10}{7} \cdot rank$, in the same way as in the report by SQMA (Cronemyr et.al., 2017). The scores were then plotted against each other in the IPA Model, categorizing them into different zones of improvement priority. Since these are not absolute values but rather based on an equation, these results should be used merely as an indication of what needs to be improved. The calculated scores can be seen in Table 11 on the next page.

	Performance			Importance		
Value	**Mean**	**Rank**	**Score**	**Mean**	**Rank**	**Score**
Customer Orientation	4,41	1	**8,57**	4,19	1	**7**
Process Orientation	4,12	4	**4,29**	3,99	4	**4**
Committed Management	4,21	3	**5,71**	3,82	5	**3**
Continuous Improvements	3,64	6	**1,43**	3,70	6	**2**
Participation and cooperation	4,24	2	**7,14**	4,14	3	**5**
Base Decisions on Facts	3,84	5	**2,86**	4,16	2	**6**

Table 11: Mean, rank and score for each quality value.

The IPA Model is divided into four different subsections - urgent action, improve, appropriate and excess. Quality values that end up in the top left corner, "urgent action", has a performance far below what it should be, and should be addressed with immediate action. In this case, no values ended up here. The "improve" category includes values that needs to be improved, namely "continuous improvements" and "base decisions on facts". While they both need to be improved, "base decisions of facts" should probably be addressed first since it is close to the "urgent action" category. The rest of the values are found in the "appropriate" zone, for example "customer orientation" which has high performance and high importance. Quality values which fall under this category should be considered satisfactory in the short to medium term. In the long term however, Swedavia should aim to improve these as well (Slack, 2011).

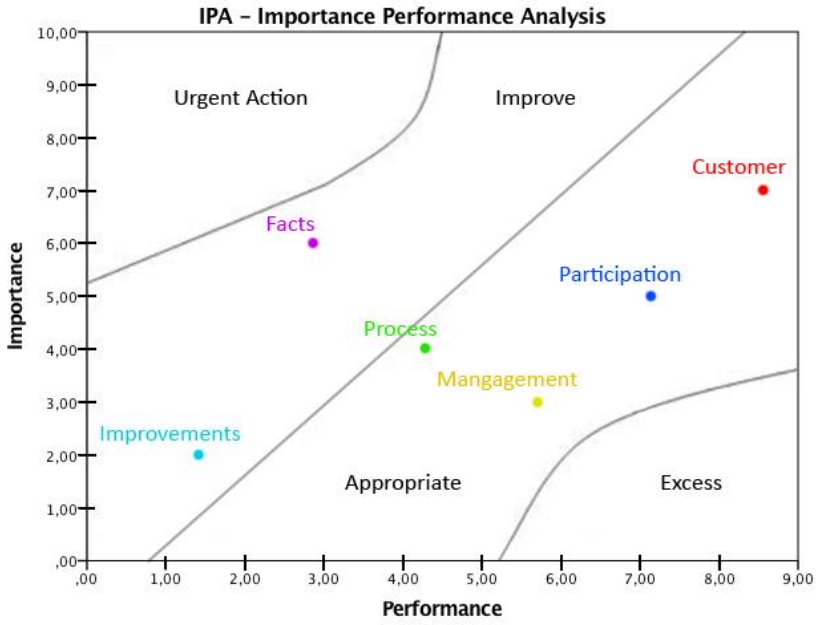

Figure 13: Importance Performance Analysis of survey results.

4.1.3 ANOVA Analysis

The ANOVA (Analysis of Variance) tool combines variances and means of different groups, in order to analyse if they come from different populations or not. To be able to say that two groups come from different populations, they should preferably have low variance (meaning each group should be relatively homogeneous), and have distinct means. If the groups examined has very similar means, there is no reason to conclude that they are in fact different in any meaningful way. In that case, the hypothesis would be that the small difference exists due to chance or randomness alone. In statistics, this hypothesis is called the *null hypothesis*. The null hypothesis is generally assumed to be true until evidence indicates otherwise. If the result of a study has a small chance of occurring given the null hypothesis (i.e. the result is not likely to occur due to randomness alone), it is said to have significance. The probability of achieving a result as extreme as the reported outcome, given that the null hypothesis is true (i.e. achieving said outcome given there is no correlation), is called the p-value. An outcome is statistically significant when p is lower than the predetermined significance level α ($p<\alpha$). In neither case is the null hypothesis proven true or false - the data is tested based on how likely or unlikely it is to appear, and a decision is made based on those facts. The significance level (α) is generally set to 0.05 (or 5%) (Carpark, 2007). In this case, it was set to 0.05.

In the case of this master thesis, a significant result would indicate that there is reason to believe that the different ratings of performance within, for example, Customer Orientation (4,41) and Process Orientation (4,12) exists because of an underlying reason rather than pure randomness. On the contrary, if the result is not significant it is not wise to say that Swedavia is more customer oriented than process oriented (based on this survey alone).

ANOVA (Performance Values)					
	Sum of Squares	df	Mean Square	F	**Sig. (P)**
Between Groups	11.55	5	2.310	1.919	0.094
Within Groups	200.94	167	1.203		
Total	212.49	172			

Table 12: ANOVA result based on performance values. Significance level shown in bold.

ANOVA (Importance Values)					
	Sum of Squares	df	Mean Square	F	**Sig. (P)**
Between Groups	5.948	5	1.190	1.642	**0.152**
Within Groups	121.732	168	0.725		
Total	127.680	173			

Table 13: ANOVA results based on importance values. Significance level shown in bold.

For the results within performance, the ANOVA analysis indicated that the difference between values were not significant enough to conclude that it was based on any underlying reason, although it was relatively close (P_{Perf} =0,094) (Table 12). The same goes for importance - which had even less correlation between groups (0,152) (Table 13). To put these

number into context, it means that if one were to assume there actually is a difference between the values, they would be wrong in 9.4% of the cases for performance and 15.2% of the cases for importance. In short, the ANOVA analysis indicates even though there is a difference between the quality values, it is not wise to draw any conclusions based on these results alone.

4.1.4 Analysis of consistency in answers

This section compares differences in answers on an individual level. As an example, there were two questions related to customer orientation in the first part of the survey. Given that "Respondent X" rates the performance of customer orientation has high in the first question, did he or she rate it as high in the second question as well? A rating of 7 in the first question and 6 in the second results in a difference of 1. These differences, for all respondents, are plotted as box plots in Figure 14. The black line indicates median value, the red dots the mean, the circles outliers, and the stars extreme outliers. According to these results, the consistency is high for the first part of the survey and lower for the second.

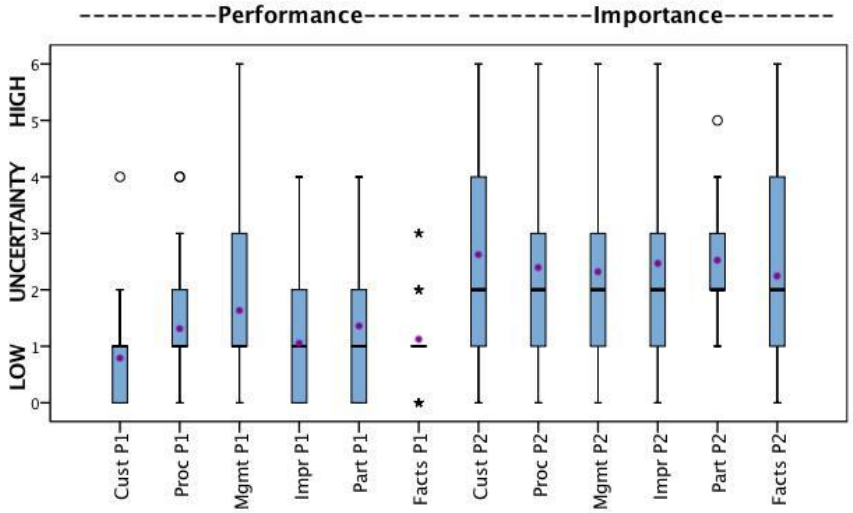

Figure 14: Graph illustrating consistency in answers.

Committed management stands out with the highest range of the first part. This was likely due to the fact that this was the only value with three questions related to it. The overall mean was slightly above one for the first part (1,27) and considerably higher for the second part (2,45). Thus, the results from the first part of the survey are more useful and should be seen as more reliable.

4.1.5 Analysis of correlations

The chart illustrated in Figure 15 shows correlations between the quality values. Correlations that were not significant ($P<0.05$) are not shown. Performance within committed management had medium to strong correlation with almost all other values, both when considering performance and importance. Customer orientation had a positive correlation with all other values within the performance section, but no correlation with any values in the importance section.

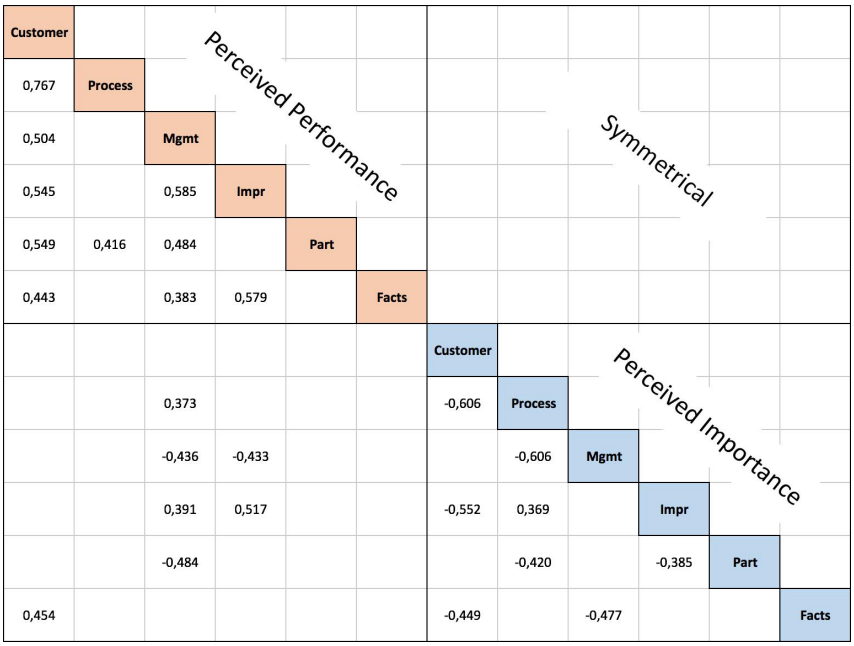

Figure 15: Correlation between values. Correlations that were not significant (P<0,05) are not shown.

4.1.6 Comments about the survey design provided by respondents

The general view was that the first part was easier to understand than the second, as the scenarios were too complex. This concern was raised both during the test-run and in feedback received from four respondents. This is a high number considering a total of five respondents decided to give any feedback at all.

4.2 The qualitative assessment of Swedavia

The organisational culture, which is described in this chapter, is mainly based on levels of culture which are superficial. In other words, written information from a public website, intranet or observations do not paint the whole picture of a culture. Also, these are observations performed by outsiders, i.e. the authors of this thesis. Thus a lacking understanding of internal processes and structures are possible.

Based on the authors subjective observations, Swedavia is an organization which focus mainly on customers and sustainability. Customer orientation is repetitively evident in documentation of Swedavia (values, process-chart, principles, goals, mission, business idea). All core processes of Swedavia are customer oriented. Sustainability (economy, environment and society) is also repeatedly evident in documentation (vision, mission, values, goals, principles, process-chart).

Comparing the characteristics of Swedavia's organization to the characteristics of Cameron & Sine's (1999) characteristics of quality cultures, some characteristics can be easily observed. These are, according to the author's, in this study; use of quality tools, gathering of customer data, human resources and priority of quality. Today, the less use of standard quality tools and techniques characterize Swedavia's quality culture as less advanced. However, during the time of the study, top management decided to explore the possibilities of an ISO 9000 certification. With such classification, and proper use of the ISO-processes, Swedavia would become a more advanced quality culture in that aspect.

Swedavia uses three main classification of customers. Passengers, airlines and tenants. It seems the passengers are the most important customers for Swedavia. However, Humphreys & Francis (2002) argues that airlines are the key customers since they act as an intermediary between the airport and passengers. To reach a desired level of customer satisfaction, Swedavia uses four core process to translate customer needs into customer satisfaction. Today, Swedavia conducts customer satisfaction surveys of passengers, airlines and tenants. Passengers are surveyed more often than airlines and tenants. If Swedavias focus on customers is characterized as less emphasis on customers or a great deal of attention on customers surely is a subjective matter. However, the authors argue that Swedavia is somewhere between less and more emphasis on customers. If Humphreys & Francis argument, of airlines being the most important customer, is true then surely customer satisfaction surveys should be conducted more often with airlines. During the time of the study, two customer satisfaction programs were started in Swedavia.

Emphasis on optimally utilizing human resources is, according to the author's observation, something Swedavia focus resources on. Today, Swedavia has a strategy named “Engaging Culture”. This is one, out of five, of Swedavia’s main strategies. The strategy engaging culture mostly involves self-development of employees. Swedavia claim that culture is an important factor in goal fulfilment. Employees who take responsibility, fulfils his/her duties and follow Swedavia’s values are offered developing possibilities. Also, annual employee surveys is conducted and principles for employees and leaders are established. There is a clear trend of Swedavia wanting to optimally utilize human resources. However, as always there might be differences in theory and practice. The study only involved the desired theoretical aspect of human resources optimization in Swedavia. How that pan out in practice has not been studied.

Swedavia has a strong focus on safety and the environment, often resulting in a limited focus of the soft parts of quality management within the top management, for example quality culture. This is evident in the lacking involvement of quality as part of top management. Managers of real estate, security and safety, marketing and communication are among others who are included in top management. To not include a quality manager is, according to the authors, evidence of either lacking knowledge of quality management or lacking knowledge about quality management. However, there is a quality management subdivision. But, according to the authors, it is a statement in itself to not include a quality manager in top management. Quality management must be an issue for top management to facilitate performance excellence (Juan & Defeo, 2010).

5. Discussion

The first part of the discussion will summarize and discuss the results of the project by answering the previously stated research questions one by one. A discussion regarding the method as well as further research and implications will follow.

5.1 Research questions

RQ 1: Which aspects are crucial in successful quality management?

The literature review showed that successful quality management is holistic, in the sense that it requires a system that involves several aspects. What that system consists of is of course up for debate. A simple comparison between Juran & Defeo's (2010) model and Hellsten & Klefsjö's model support that claim. The differences between the excellence models also support that claim. Furthermore, the different quality management concepts differ in its content (e.g. see Andersson et al, 2006). However, what the included authors, from the literature review, do agree upon is that quality management is a system and part of the system is the culture. The authors of this thesis argues that Boaden & Dale (1993) makes a valid point arguing that development of culture is an ongoing process rather than a prerequisite for quality management.

RQ 1 is a mouthful. The answer to that question is; depends on who you are asking. If the question is narrowed down to "which aspects are crucial in organizational culture development?" a greater answer can be provided. Our literature findings showed:

1. What can be changed? Attempted cultural change at its deepest levels are not recommended. Hofstede et al. (2010, p.371) conclude that *changing collective values of adult people in an intended direction is extremely difficult, if not impossible.* Schein (2017) argues that underlying assumptions are hard to change. Furthermore, Hofstede et al. (2010) argues that values can only be shared among top management. Managements values become employee's practices. Thus, cultural changes at the more superficial levels can occur, while values remain the same.

2. Change of culture requires change of people. Schein (2017) concluded that cultural changes must either be aligned with present beliefs, values and behaviours or the people of the group must be changed. Hofstede et al. (2010) mentions human resources possibilities in changing organizational culture based on criteria for hiring. A cultural change also requires leaders and top management commitment.

RQ 2: What does the present quality culture profile of Swedavia look like?

Within the examined divisions of Göteborg Landvetter Airport, the quality culture survey results indicated that Swedavia has a high focus on customer orientation and participation and cooperation, since they perceive them as well performing and important values. They have a relatively low performance within the two values continuous improvements and base decisions on facts. While these were also the least important values according to the survey result, they still fall under the improvement category in the Importance Performance Analysis (IPA).

They should keep up the good work within customer orientation, process orientation, committed management and participation and cooperation, however, in the long term they should aim to raise performance within these values as well.

The fact that respondents answer the questions in the first part of the survey very differently indicates that people have different views of how things work today. One might argue that these differences derives from the design of the tool. However, the consistency in answers is high as well, which means that respondents are consistent in their opinions. If they express a strong performance of customer orientation in the first question, they are very likely to do so in the second question as well. This implies that people has different opinions of how things work within the organization, possibly because of departments having different strengths and weaknesses.

Furthermore, it is important to acknowledge the fact that the results lack validity in two important aspects. First, the surveyed quota of Swedavia is roughly one percent (29 respondents out of roughly 3000 employees). Second, the respondents all work at Swedavia's Landvetter office. Thus it impossible to know if a subculture has been studied or not. The distinct geographical limitation, in combination with few respondents, is certainly an issue.

RQ 3: How should Swedavia work with quality culture to establish a sustainable and successful quality management?

In the survey outcome, both the perceived performance and spread in answers within different quality values are interesting to consider. The survey indicates that customer orientation is strong within the organization, however, customer satisfaction surveys show that customer satisfaction is not up to par with the desired level. A possible explanation for this might be that the culture and mindset of the people is there but knowledge, techniques or tools are missing. The survey also indicates that Swedavia should start with addressing the two values "continuous improvements" and "base decisions on facts", as they have low performance compared to the other quality values.

The respondents of this survey had very different opinions of how things work today, as well as of what they consider to be most important. Therefore, Swedavia should seemingly work towards an alignment within the organization.

Research show that leaders and top management are key to cultural change (Schein, 2017; Hofstede et al., 2010; Liker & Hoseus, 2008). Therefore, it seems to be important that leaders within the organization are educated and committed to achieving an improvement within these areas.

Swedavia is considering to work towards an ISO 9001 certification. Eriksson et al. (2016) argues that this model has limited coverage when it comes to the most important challenges that organizations are facing today. For example, ISO 9001 fail to address the two most highly ranked challenges, which are (1) to transfer the ownership of quality from the quality profession to management and (2) to make the organization agile and adaptable to rapid changes within the business environment. Considering the observations made in this thesis, such as (1) that Swedavia are operating in a complex business environment and (2) that quality management has a relatively low priority within the top management already, these are important aspects to discuss and take into consideration. On the other hand, working towards an ISO 9001 certification provides the organization with a measurable goal in a more comprehensive way than the excellence models do. It might also help with spreading quality

awareness within the organization. Whether Swedavia should work towards this certification or not is outside the scope of this project, however, the authors recommend that Swedavia considers the aspects mentioned above.

Also, since one of the reasons why organizations often fail in implementing quality management is due to a failure in understanding quality management as a system (Juran & Defeo, 2010; Hellsten & Klefsjö, 2000), educating people in quality seem to be of high importance.

Benchmarking and collaboration with similar organizations might also be a source of help, guidance and inspiration.

Schein (2017) argues that a change of culture requires a change of people. If Swedavia wish to change the culture at a deeper level in a long term perspective, they are therefore advised to utilize the possibilities of human resources and hiring criteria.

5.2 Method Discussion

Using the IPA Model as a way of describing which quality values Swedavia should focus on might not be the right way to go, since the importance of each value is purely based on the respondents' opinions, disrupting its reliability. Since there is no underlying research that states which ranking is correct from a theoretical perspective, one has to assume that people within the organization knows what is most important for them.
Naturally, people might not always know that. In an organization with no or low understanding about what is best for them, the information might be misleading. While this might not be the case at Swedavia, it is possible that it influenced the result in one way or another. The discussion is applicable to all organizations. How many organizations, and the individuals within the organization, truly know what's important for the organization to succeed? In an extreme scenario, one can assume that every organization know what's important for them. The question for less successful organization is then; why do you not succeed? Is it simply because of lacking knowledge in how to work in important areas? In the opposite extreme, one can assume that no organization knows what's important for them. It is simply beliefs, or even perhaps guessing, that act as the foundation of importance. A more interesting take on this survey would be to compare the perceived performance within each quality value to what research say are the most important values. Due to time and resource constraints, this was not possible to do during this master thesis.

In this project, the sample size was too small to draw any conclusions regarding which departments were strong or weak within a specific quality culture value, however, if this survey were to be performed in a larger scale, it would be much more likely that similar conclusions could be drawn. In that case, departments could share best practice and learn from each other. The idea of doing the survey in a larger scale was brought up at the beginning of the project, but due to restrictions this was not possible.

The fact that respondents reported issues with the second part measuring importance, experiencing it as confusing and hard to interpret, weakens the value of the importance ranking even further. A possible solution to this could be to simply use the same design for the second part as the for the first part, but to ask which behaviour the respondent perceive as more desirable, instead of asking which behaviours are most represented in the organization today.

Another issue with the second part is that respondents can base values on different origins. Values may origin from underlying assumptions, an ideology of the organization or aspirations of the future. In a survey like this, one would like to isolate the values that are coherent with the underlying assumptions since these are the ones that ultimately controls behaviour, i.e. controls how quality management is performed in practice. However, if that is possible or not is up for debate. Since this is a survey conducted in the name of the organization the respondents work in, one could assume that ideology of the organization has its affect. Perhaps they are aspirations of the future based on the ideology of the organization. Further elaborating on the IPA analysis, the equation that is used in order to calculate score is purely based on the internal ranking rather than the absolute values of perceived performance and importance. An extreme example that illustrates this issue could be an organization that hypothetically perform very low in all of the quality values. Even though the performance is found low in every single area, the IPA model could still place values within the "appropriate" or even "excess" zones. This information could be devastating given that the company decides to cut resources from an already underperforming quality aspect.

Interpreting the result of statistical studies is often associated with calculated risks. When dealing with survey results, there is often no guarantee that they reflect the reality. However, it is possible to calculate how likely it is they do. Naturally, this aspect was involved in this master thesis as well. The ANOVA analysis showed that in the case of performance, nine out of ten times (90.6%), the differences in means for each quality value exist due to other circumstances than pure randomness. Thus, there is a 9.4% risk that these values come from, what is commonly known within statistics as, the same population. For the part measuring importance, this figure was 15.2%. Since it was predetermined before the survey was issued that the highest acceptable risk was 5% ($p<0.05$), the reliability of the questionnaire is questionable. This should be something that Swedavia keeps in mind if they decide to act on these results.

5.3 Further research

Further research regarding Hofstede et al.'s (2010) national dimensions and the relationship to quality values would be of great interest. Lagrosen (2003) touched upon this topic, but the research is not extensive enough and neither is it up to date. The reason why national norms are interesting is because they act as the foundations for values acquired in young age. Of course, they are norms. But for quality management in grander scales they become of interest. Suitable organizations to facilitate such research are national quality institutes, such as SIQ.

5.4 Implications

This thesis put quality culture in to grander scales. The survey used in this thesis act as method of profiling quality culture. Implications from this thesis are threefold. First, the survey as a quantitative method for profiling quality culture. Second, our literature review showed that quality culture is a part of the system of successful quality management. Third, our literature findings showed that quality culture must be aligned to other layers of culture which are more dominant.

6. Conclusion

Quality management should be seen as a system that involves several aspects, one of them being organizational culture. Culture is structured in different levels. While changes at the more superficial levels can occur, changes at the deepest level of culture are hard to affect. If one wishes to align the deeper levels of culture within an organization, it seems to be a question of hiring people with the right values. However, in order to influence the more superficial levels of culture the commitment of leaders is important. One part of the thesis was to use a quality culture measurement tool in order to map the quality culture of Swedavia. The tool is based on a survey. The results of the survey indicated that Swedavia has a high focus on customer orientation and participation and cooperation, while values such as continuous improvements and base decisions on facts are less prominent within the organization. According to the Importance Performance Analysis, Swedavia should aim to address these values first. However, unfortunately, according to ANOVA the result of the survey did not have statistical significance. Because of this, it is advised that Swedavia does not take action based on the survey results alone. While it is not possible to determine whether the outcome of the survey profiles a sub-culture or not, the results still gives an indication of the current state. The authors of this report would also like to emphasize the information gathering, literature study and discussion associated with this project as a source of knowledge that hopefully will contribute to Swedavia's future quality work and success.

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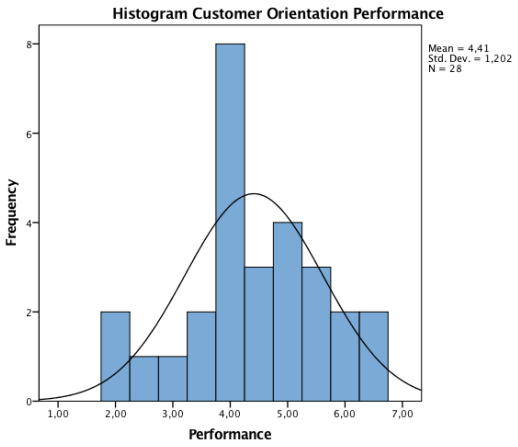
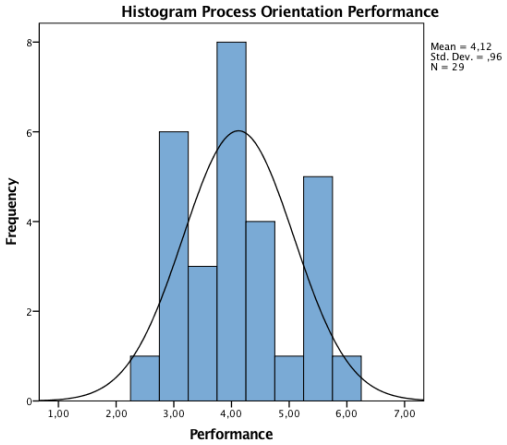
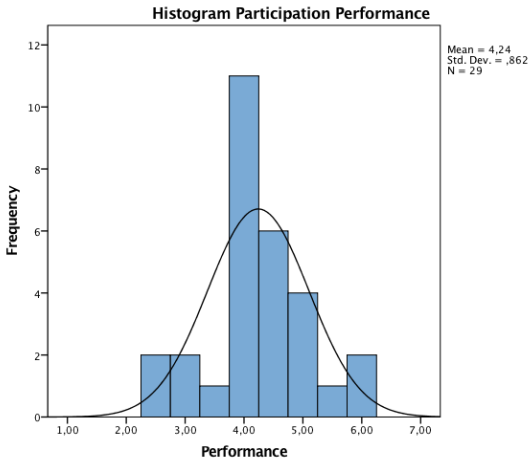
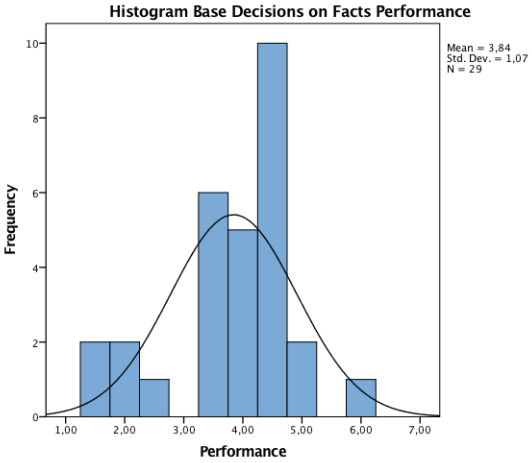
Appendix A

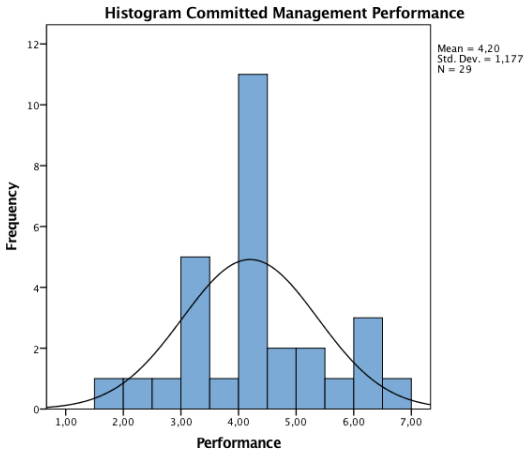
Histograms of Survey Results

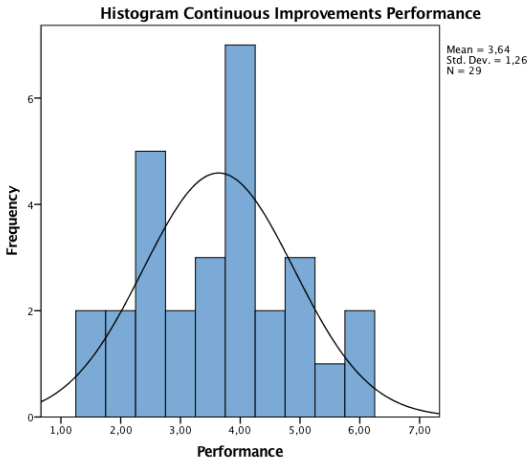


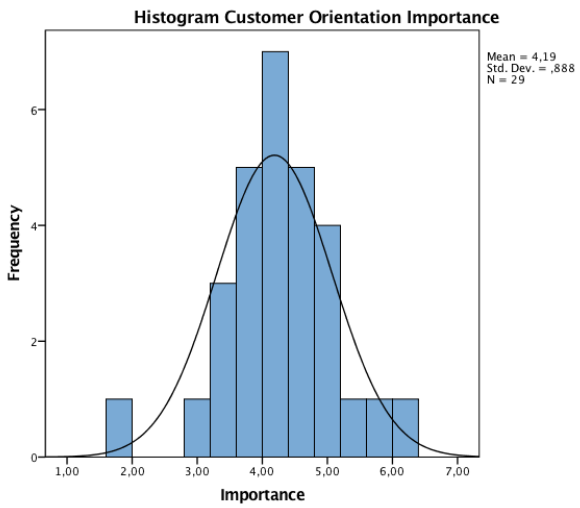








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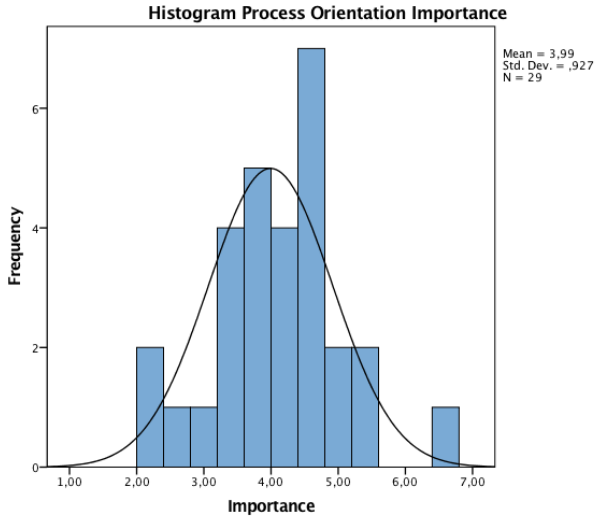
Importance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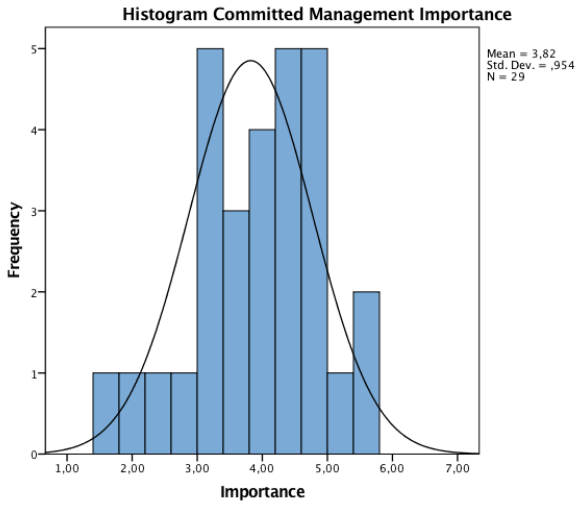
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Frequency
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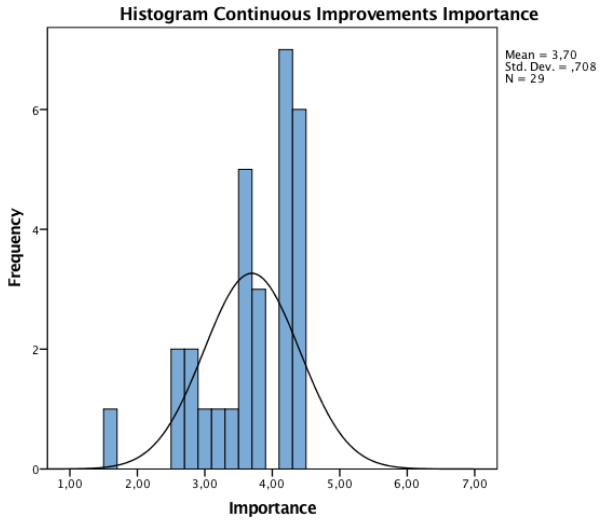
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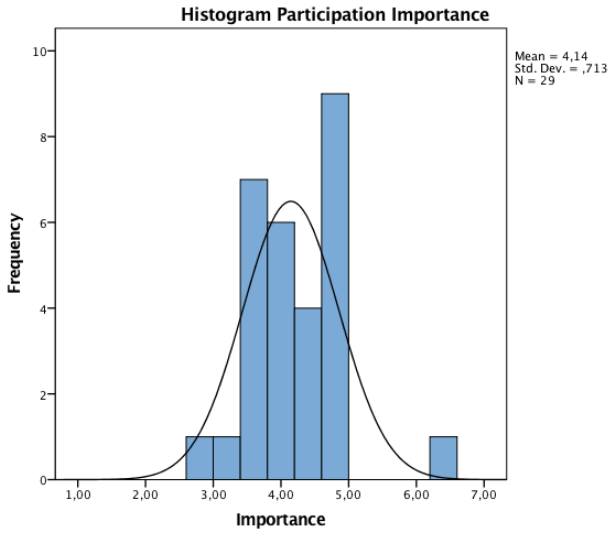
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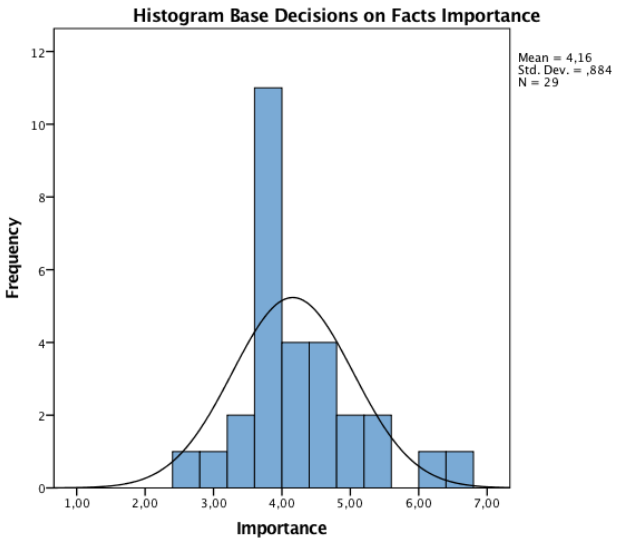
Frequency
Importance


Histogram Base Decisions on Facts Importance
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Std. Dev. = ,884
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Frequency
Importance