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Cluster Initiative Success Management

– a single case study on Telematics Valley

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Abstract

Regional Innovation System (RIS) and clusters have long been argued for having a positive impact on regional growth. Also, the eminence of cluster initiatives and how in turn they support regional growth and development are becoming important questions for scholars and practitioners as well. However, there is limited prior qualitative research which investigates how cluster initiatives become successful and what their influence on regional development is. The purpose of this study is therefore to investigate the area of cluster initiative success and management. This research is a qualitative single case study on the cluster initiative - *Telematics Valley*, situated in the region of Gothenburg. The study aims to identify the 'crucial success factors' that are needed by the cluster initiative to become successful and the potential future actions that Telematics Valley can take in order to attain the success factors. The respondents for the interviews were selected through purposive sampling of actors from the telematics industry and cluster organisations focused on regional growth. In order to analyse the results, a merged framework incorporating 'crucial success factors for cluster initiatives' and 'cluster effect on regional growth and development' was used as the theoretical perspective and lens throughout the study. A 'thematic analysis' approach was used, which assisted in the generation of crucial patterns and themes. The authors deduce that the identified empirical results and the derived themes correspond with the incorporated theoretical framework. The crucial success factors: idea, driving forces & commitment, a critical mass, activities and organisation, were concluded to be essential for the cluster initiative's success. The results indicate that having a: well defined idea, mission and vision, a unique membership base, motivated members, open atmosphere, opening up for external actors, relevant activities and taking the role of a facilitator of networks, are all important for Telematics Valley to develop and facilitate the links between the actors in the cluster. This in turn, creates cluster competitiveness which leads to a favourable environment for business growth which enhances regional growth and development within the region of Gothenburg.

Keywords: *Telematics, Telematics Valley, Clusters, Cluster Initiative, Regional Innovation Systems (RIS).*

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1. Introduction

This section aims to introduce the research topic and the background of the study. The background gives a brief overview of Regional Innovation System (RIS), clusters, telematics, the regional industry in Gothenburg and the cluster initiative - Telematics Valley. The section will also touch upon the research problem discussion and the purpose of the study. Thereafter, the research questions and the delimitations of the study will be presented.

1.1 Background

It has been long recognised that the geographical agglomeration and concentration of firms stimulates innovation, knowledge spill-overs and competitiveness in a region (Audretsch & Feldman, 2004). The notable concepts of Regional Innovation Systems (RIS) and clusters have been extensively argued for having a positive impact on the interconnected organisations and also the region overall (Cooke, 2001). Prior research defines RIS as *'interactive knowledge generation subsystems'* which has an effect on a region's innovation performance and competitiveness (Önday, 2016). RIS is also described as the institutional infrastructure that supports innovation within the region. Regional clusters exist within the structure of the RIS, and can be defined as the regional ecosystem of organisations, institutions and actors within the same field, who are located in the same geographical area (Delgado & Porter, 2014). Extensive research has been conducted on clusters and on the advantages it brings for the co-located organisations (Porter, 1998; Delgado & Porter, 2014; Duranton & Kerr, 2015; Ketels, 2003).

Clusters are considered to be vital contributors to regional competitiveness and development through stimulating innovativeness, job creation and technological progress (Porter, 2000). The key actors within the cluster can share and develop specialised knowledge, skills, resources and service within the particular industry (Andersson et al., 2004). These key players within clusters can be complemented by 'brokers' also known as the 'cluster initiatives' or intermediaries. Cluster initiatives are defined as the facilitators for connecting the links between the different actors within a cluster, to stimulate and encourage the innovation processes (Cook et al., 2007). Clusters can exist in various geographical areas and industries and the various co-located organisations benefit from being a part of a regional ecosystem of interconnected companies and institutions of a specific field.

The region of Gothenburg has had a unique cluster within telematics since 2000. Telematics is a technology that started to develop two decades ago, and since its inception gradually began to revolutionize user experiences. When telematics technology started evolving 20 years ago, several organisations within Gothenburg decided to form a joint association in order to keep up with the global competition. Together they formed the cluster initiative 'Telematics Valley'. The aim of Telematics Valley was to support the regional telematics industry to reach full potential in the region. The members of the West Sweden telematics cluster now form a variety of specialized suppliers, service providers and other interrelated organisations within the particular field of telematics (Telematics Valley, n.d). The platform brings together a mix of firms,

connecting them through organising various networking and knowledge sharing events. By having the access to intensive regional networks, the co-location and the opportunity to co-operate, members can achieve competitive advantages by being established in Gothenburg. In this study, Telematics Valley is considered as a cluster initiative with an intermediary role for the telematics cluster in the Gothenburg region. The association aims to encourage regional networking, communication and knowledge sharing for the members within the telematics industry, which is also known as connected industries. The aim of Telematics Valley is to be a hub that connects all relevant organisations and actors.

Telematics has applicability and use across diverse industries, and is what makes connectivity and mobility a reality today. The term 'telematics' is a combination of the word 'tele' and 'informatics' (Mikulski, 2010). 'Tele' originates from the Greek word 'at distance' meaning remote communication, and 'informatics' refers to the structure and interactions of both artificial and non-artificial systems which handle information processes and storage. This combination of the two words represents what 'telematics' is all about (Mikulski, 2010); the technology systems that combine information with telecommunication, which enables wireless information sharing (Telematics, n.d). Today, telematics is mostly recognised through its enabled services and solutions in the automotive sector. Automotive telematics facilitates data collection which can be used in many different and important ways. However, the common misconception is that telematics systems are only used in the automotive industry. Lately, the world has seen a great increase in the use of telematics and especially the changing role of telematics in society. Today, telematics serves across several industries, organisations and societies. Examples of other industries where telematics plays an important role are healthcare, finance, insurance and energy (Telematics Valley, n.d.). Due to the complexity of the telematics technology, the service of real-time information to distant networks requires that many different types of actors are involved in the value chain of Telematics (Ball, 2009). In order to facilitate collaboration within the value chain of telematics and boost regional development and growth within the industry in Gothenburg, Telematics Valley wants to act as a catalyst to fuel and strengthen the regional innovation and development and intends to also encourage cross industry collaboration.

Regional cluster initiatives have been gaining more attention from several policy makers, researchers and practitioners (Berzina & Garanti, 2013). Cluster initiatives contribute towards the development of the entire cluster by identifying the actors' needs and offering services which fulfil those needs (Moss, 2009). Hence, cluster initiatives play an important role within a cluster and its successful management and progress consequently impacts the cluster competitiveness. The identification of the factors and elements influencing cluster initiative's success are therefore essential. According to Klofsten et al. (2015) the identification of success factors is necessary for the assessment and the development of a cluster initiative. Through identification of the success factors needed, Telematics Valley can find ways of how to effectively function and prosper in the region of Gothenburg. Telematics Valley hence needs to explore which crucial components and features are required to become a successful cluster initiative. Furthermore, what actions the cluster initiative needs to undertake for the involved member organisations, and thus enhance regional growth and development.

1.2 Problem Discussion

The significance of RIS and geographical clusters have long been addressed and discussed in numerous academic literature and research (Wennberg & Lindqvist, 2010; Cook et al., 2007). Much is known about its effects, not only on a firm level, but also for a region collectively (Wennberg & Lindqvist, 2010; Cook et al., 2007). Baptista & Swann (1996) highlight how strong regions attract more new entrants and firms in strong regions tend to innovate more and grow faster. Moreover, Baptista and Swann (1998) also underline increased innovation as one of the results of strong regions. It is stated that innovation, entry and growth tends to be higher in clusters (Baptista & Swann, 1998).

When it comes to the telematics cluster in Gothenburg, Telematics Valley aims to play an important role as a cluster initiative. The association desires to further reinforce the regional competence agglomeration through arranging several networking events and activities which intend to bring all the connected and relevant firms in the industry together and gain from each other. There is extensive prior research on the effectiveness of RIS and geographical clusters and how they augment innovation. However, there is a lack of information available on the underlying processes and how the organisations within the clusters are facilitated through cluster initiatives. In addition, according to Klofsten et al. (2015) there are very few qualitative studies that are directly concerned with the success factors needed by cluster initiatives; specifically, operationally related factors. Klofsten et al. (2015) highlight that the qualitative success factors are less studied because they are difficult to define and measure.

Since Gothenburg region makes up specialised competence and network within telematics, it is thus essential to delve deeper into this domain through academic research and look into the success factors that a cluster initiative like Telematics Valley needs. Additionally, what cluster initiatives further needs to contribute towards regional growth and development is an area which has not been looked into or explored at depth, where empirical research would be valuable. The crucial factors are defined as important elements or components that a successful cluster initiative needs to entail. This study therefore intends to look into what these factors are for Telematics Valley. Furthermore, to explore what future actions Telematics Valley can undertake to become successful and further enhance regional growth and development.

1.3 Purpose Of Study

The aim of this study is to investigate and identify the success factors that cluster initiatives need in order to become successful and how the incorporation of the specific success factors can contribute towards regional growth and development of the region where the cluster initiatives are geographically located. This research takes the perspective of a single-case study, investigating Telematics Valley as a cluster initiative in the region of Gothenburg. Since its inception, Telematics Valley has had a vision to promote Gothenburg as a leading and unique telematics cluster. The telematics industry has evolved at a rapid pace, however lately the activities and the progress of Telematics Valley has not kept pace.

The purpose of the study is categorized as:

1. Investigate and identify the essential success factors that are required by Telematics Valley in order to become a successful cluster initiative in the region of Gothenburg.

2. Explore what actions Telematics Valley should take to reinforce the regional telematics competence and thus contribute towards regional development and growth.

3. Provide suggestions and recommendations for Telematics Valley regarding what will be needed to focus on in order for the organisation to move forward.

The purpose of the study will be achieved through collecting insights and perspectives from selected relevant respondents such as several member organisations of Telematics Valley, various actors within the telematics industry and other cluster initiatives/organisations. In addition, the thesis has been initiated by Business Region Gothenburg, who have been setting the stage for the research process and have provided the necessary guidance to the authors.

1.4 Research Questions

The main question for the research derived from the research purpose is stated as:

- *What are the crucial factors for Telematics Valley in order to become a successful cluster initiative?*

Depending on what crucial factors Telematics Valley needs in order to become a successful cluster initiative, the study also aims to investigate what actions Telematics Valley should take to contribute towards regional growth and development. Therefore, the sub-research questions is stated as follows:

- *What potential actions should Telematics Valley undertake to enhance regional growth and development?*

1.5 Delimitations

This research takes the perspective of Telematics Valley in the region of Gothenburg, however the results of the study can be applied to all kinds of cluster initiatives in different industries and regions. The purpose of the study is to investigate the success factors of a cluster initiative and explore how a cluster initiative can become successful. This study only focuses on the internal factors that are needed for managing and developing a successful cluster initiative.

Furthermore, the purpose of this study is also to investigate the actions that the cluster initiative Telematics Valley should undertake to enhance regional growth and development. It is therefore important to define regional growth. Regional growth can be defined and measured through quantitative factors and change in the regional economy. This can be measured from a holistic view on aspects like living standards and the technological base in a region. However this study

is not focusing on exactly how regional growth is achieved, in terms of quantitative measures. It is rather investigating the potential that actions are essential to take to boost growth and development in a region. Due to the variety of the term ‘cluster initiatives’ and ‘intermediaries’ in different contexts, this study will refer to Telematics Valley as a cluster initiative with an intermediary role in the regional cluster.

Furthermore, even though RIS, clusters and cluster initiatives are argued for having a positive impact on a region's success and development, it is clear that the growth and development of a region is not solely reliant on them. There are many other aspects such as political and socio-cultural factors that need to be present in a region to achieve regional growth and development. The focus in this study will however solely lie on the perspective of Telematics Valley and what it needs to entail in order to become a successful cluster initiative that can potentially boost regional growth.

The regional industry focus within the study is the telematics industry within the region of Gothenburg. The main organisations interviewed to answer the research question are primarily within the automotive sector. In addition, the study does not aim to explore and delve deep into the technology aspect of telematics.

3. Literature Review

This section aims to provide an understanding of the different concepts - in the view of prior literature. Firstly, the definition of regional growth and development is briefly discussed. Then, Regional Innovation Systems (RIS). Furthermore, the term cluster is explained, followed by the relationship between RIS and clusters and the role of cluster initiative as an intermediary is discussed.

3.1 Selection Of Past Literature

Lately, scientific research has increasingly focused on 'regions' and its significance towards accelerating innovation and regional economic development. It is stressed that geographical proximity and concentration leads to innovation occurring more smoothly and effortlessly (Doloreux & Parto, 2005). In order to provide an understanding regarding how regional growth and development is defined and measured, past research within these areas is delved into for this section.

The two concepts of *RIS* and *clusters* have gained prominence and are concepts which are quite similar and interlinked to each other. The literature review section will aim to explain RIS and provide a broader view of this phenomenon. Clusters and regional networks have long been argued for having a positive impact on interconnected organisations located in the geographic concentration. Therefore, the meaning of the term cluster will also be elaborated. It is essential to decipher these concepts since Telematics Valley as a cluster initiative can play an important role to enhance innovation and development within the telematics competence in the Gothenburg region. Therefore, the role of a cluster initiative will be elaborated on. It is crucial to comprehend the mentioned phenomena in the view of prior literature to get a better understanding regarding the background of the study.

3.2 Regional Growth & Development

The definitions and measurements of regional growth and development can be defined differently depending on different perspectives from various stakeholders. Rocha (2004) stated that regional growth can be measured through quantitative change in the regional economy. These quantitative changes can be measured by data from example income, employment, investments and purchasing power. This in turn, can lead to regional development that is observable through qualitative observations such as living standards and the technological base in a region (Rocha, 2004). Poveda (2011) argues that growth in a region delivers various resources which in turn develop the region's ability to shift from lower income and living standard to higher income and higher living standard. Fritsch (2008) differentiates the direct and indirect effect on regional development. The direct effect is job creation and larger market shares and the indirect effect is the increase of innovation and productivity.

According to Chapman (2009) the factors that contribute to a region's growth are factors of cost (land, energy, labour, capital), factors of income (competition and market) and cost-income factors (for example policy and infrastructure). Cluster theories argue that the productivity,

competitiveness and innovation capacity of a cluster can stimulate job opportunities in a region (Puga, 2009; Porter, 2003). A cluster is built on interactions between these factors (Chapman, 2009), and according to Stimson et al. (2006) clusters can ensure regional development through providing a supportive environment for business development. Pachura (2010) states that regional clusters act as promoters for regional development and that clusters often are used as a way of building regional development policy. Ketels (2003) argues that regional clusters act as essential driving forces for development in a region. Further, Berzina & Garanti (2013) argue that regional clusters play a crucial role when it comes to organisations performance, competitiveness and innovation capacity. This in turn, has a great impact on cluster competitiveness which creates a favourable environment which enhances the growth and development of a region (Berzina & Garanti, 2013). However, it is evident the development of a region does not only rely on the presence and expansion of a regional cluster. Nevertheless, a cluster does consist of various interactions of the factors that are needed for a region to grow and develop. The cluster can therefore provide the region with advantageous conditions which can enhance the regional competitiveness (Chapman, 2009).

Several authors have varied definitions regarding how regional growth and development is achieved. However, in this study, the authors take the perspective of how Berzina & Garanti, (2013) describe how a cluster ensures regional development through providing a supportive environment for business development which impacts the competitiveness of the cluster. This in turn, creates a favourable environment for business growth, survival and establishment of new businesses which enhances the growth and development of a region. Further, for achieving regional growth and development in a region, great emphasis lies on that organisations join forces and innovate together (Asheim & Coenen, 2005). However, the organisations in a cluster are not only dependent on each other, they are also greatly dependent on the structure and systems of the nation and the region (Asheim & Coenen, 2005).

3.3 Regional Innovation Systems (RIS)

Innovation processes are complex and are often characterized by interactions involving policies, demand, technology, science and learning (Edquist, 1997). There are often many different factors which influence innovation processes and due to the complexity of innovating, it is common that actors join forces and innovate together (Chung, 2002). These actors could be enterprises, institutions, universities, patent systems, research institutes and governmental agencies. Hence, governments must support and stimulate the interaction and trust building between the actors in the innovation system (Chung, 2002). Through the interaction between other firms and organisations, different types of resources, information and knowledge can be created, gained and exchanged (Edquist, 1997). The interaction between these organisational and institutional elements is called ‘systems of innovation’.

According to Korres (2012), the interaction between technological innovation and social learning

is fundamental for a system of innovation to grow and develop, both on a national and regional level. The specified representation of organisations and institutions that are relevant for driving innovation and creating knowledge differ depending on the various approaches in national and regional innovation systems (Edquist, 1997; Lundvall, 1992; Cooke et al., 2004). The concept of National innovation system (NIS) is to rely on the different linkages between various actors in a nation which are involved in improving technologies and developing innovation. Due to globalization and changes in the global economy, there has been more focus on regional specific advantages in order to achieve growth and competitiveness lately (Asheim, 2012). To understand how Telematics Valley can contribute to regional growth and development depending on what actions that the organisation undertakes, the meaning of a regional innovation system (RIS) in a region must be further explained.

RIS has gained much attention from several researchers and policy makers since the 1990s (Cooke, 1992; Asheim, 1995; Braczyk et al., 1998). RIS impacts a region's innovation and it is also anticipated to have an effect on a region's success and competitiveness (Önday, 2016). According to Cooke (2004) a regional innovation system *'consists of interacting knowledge generation and exploitation sub-systems linked to global, national and other regional systems for commercializing new knowledge'* (Cooke, 2004; 4). Asheim & Gertler (2004) define a regional innovation system as *'the institutional infrastructure supporting innovation within the production structure of a region'* (Asheim & Gertler, 2004; 299). According to Rogers et al. (2013) a regional innovation system is a network approach between the private and the public sector which creates regional economic development involving innovation processes, new product development and value adding. The RIS approach includes the interaction of governmental agencies, institutes, firms and other users of knowledge that are involved in the processes of creating and applying knowledge in a region. Rogers et al. (2013), argue that a region is an ideal scale for such a system, since all the actors within a region have the possibility to build a platform where a RIS be developed. Clusters within a region can constitute a subsystem which involves firms within a specific sector, supporting organisations, service providers and other related organisations such as customers and competitors *(see figure 1 below)* (Cook et al., 2007).

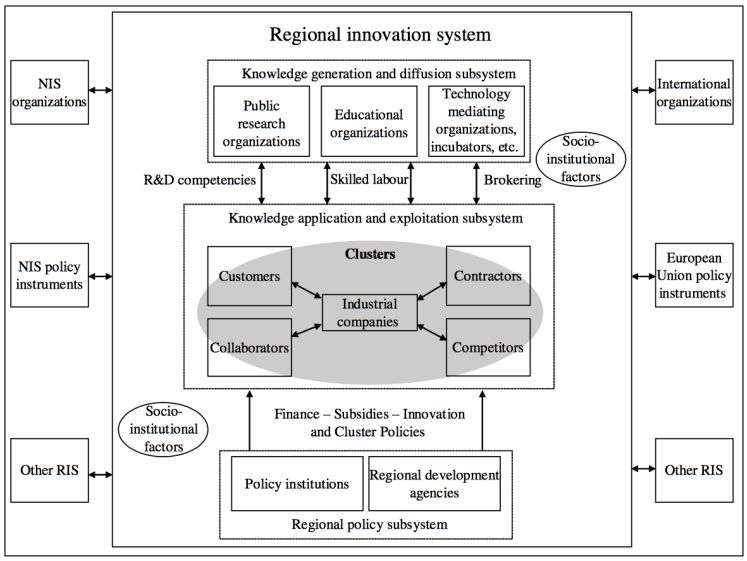

Figure 1: '*Illustrative representation of a Regional Innovation System'* (Cooke et al. 2007)

The RIS includes different policy actions and support organisations who act like promoters of innovation and learning in the region. The RIS approach requires that regional authorities provide infrastructure for education and R&D and that the social capital in the region is encouraged (Tödtling & Tripp, 2005). By the set up or by the expansion of research and educational institutions, science parks and for example innovation centres, more knowledge can be created, diffused and applied within the regional sectors. In this study, the authors define RIS as an infrastructure supported by various users of knowledge that are involved in the processes of creating and applying innovation and knowledge in a region in order to strengthen regional development.

According to Cook et al. (2007) for a RIS to function, it is a prerequisite that the actors in the RIS continuously work to create and connect 'links' between firms within the region in order to facilitate innovation processes. The various key players within a RIS can be complemented by 'brokers' such as intermediaries, training organisations, venture capitalists and development and transfer agencies (Cook et al., 2007). Lately, several initiatives like entrepreneurial networks and clusters have been established. Growing research has given attention to the relationship between innovation and clusters (Asheim & Coenen, 2005; Cooke, 2001). So as to to create knowledge within the region, clusters have become greatly emphasized since the knowledge spill-overs from cluster networks has shown great impact on the regions localized knowledge processes (Markusen, 1996). Clusters have therefore come to play a great role in regions' innovation processes and activities (Ligenzowska, 2016).

3.4 Clusters

Andersson et al. (2004) highlight that when groups of organisations in related industries, institutions and other interrelated actors are located in the same geographical area, specialized capabilities, resources and skills can be created. According to the European Cluster Collaboration Platform, a cluster acts like a regional ecosystem which consists of competences within related industries and which feature an extensive collection of inter-industry interdependencies (European Cluster Collaboration Platform, n.d.).

The term clusters derive from the industrial districts from Marshall's theory in 1890. The interests of clusters increased in the 1990s when Michael E. Porter renewed the cluster theory which was considered more modern (Porter, 1990; 1998; 2000). Porter (1998) defines the phenomenon of a cluster as "*geographic concentrations of interconnected companies and institutions in a particular field"* (;78). The regional clusters consist of various organisations which are operating in the same industry. The actors in a cluster are collaborating, competing and complementing each other (Porter, 1998, 2000). Delgado et al. (2013) stressed that *'clusters are geographic concentrations of industries related by knowledge, skills, inputs, demand and/or other related* (;1). Even though the enterprises in a cluster play an important role, they are influenced by several other actors in the regional cluster. According to Porter (1998, 2000), clusters are connected with various institutions in a region, such as education, research, financial, governmental and other institutions. These institutions are crucial for a cluster's development since they can support

enterprises with support regarding financing, innovation and knowledge transfer among other benefits (Porter, 1998, 2000).

Berzina & Garanti (2013) describe a regional cluster based on five elements; governmental institutions, education and other institutions, enterprises from the industry, related companies and lastly, the regional dimension which combines the four dimensions which were stated below:

- *Governmental institutions* stand for the public institutions who are interested in a sector's or a region's economic development
- *Education and other institutions* are the institutions that acts like the drivers of for example research, science and finance in a region
- *Enterprises from the industry* are firms that compete, collaborate and complement each other
- *Related companies* are organisations from various sectors who act as support for the actors in the sector or region who can offer and serve the firms in the cluster with services and products (Berzina & Garanti, 2013).

The combination of these four dimensions form a particular regional cluster. Porter (2000) and Delgado et al. (2013) stress that the fifth dimension which constitutes the region that is shaped by the four individual dimensions, are the main dimension of a cluster. This dimension acts like the net that ensures that all actors in the clusters have the geographically proximity to each other.

According to Porter (2000) and Krugman (1991), cluster provides organisations with the access to specialised skills, resources, customers and labour. The cluster can also facilitate the process of the organisation's knowledge gaining and sharing of specialized skills (Krugman, 1991). This could in turn lead to a competitive environment since the effects of this could be higher productivity and efficiency (Lin et al., 2006). This enhances the region's innovation capacity and development. Clusters can therefore be seen as drivers of innovation in a region. The reason for this is that the cluster can provide the access to various networks between the different actors which can commercialize innovations (Künzel et al., 2016). Porter (2000) states that organisations ability to innovate is greatly dependent on the collaborative ties and cooperation between the actors in a cluster. These collaborative ties have a strong positive impact on both a firm level and on a regional level which creates competitiveness (Porter, 2000). Competitiveness can be referred to as prosperity in particular enterprises, sectors, industries, regions and nations. Competitiveness is important since it increases abilities to improve the quality of product and services and being able to offer it at a lower cost than other actors can (Kassalis, 2010).

3.5 The Relationship of RIS & Clusters

Asheim & Coenen (2005) state that there are two concepts that belong to the same territorial innovation theory family: *RIS and Clusters*. It is further reiterated that these two concepts are very closely related but should not be intermixed with one another. To visualise the relationship of RIS and a cluster *(See figure 1).* The most complex and confusing aspect within RIS, is the distinction and relation of RIS and clusters (Jang, 2006). Both the concepts can in fact coexist in the same geographical territory (Asheim & Coenen, 2005). A RIS is distinct from clusters

primarily as it stretches across several sectors, only if the knowledge organisations and firms interact with each other consistently and orderly. It is also concluded that the clusters and RIS are mutually interdependent (Jang, 2006). Clusters are part of the broader RIS, and there can be several clusters within a regional system and each cluster has its own innovation system and internal network (Jang, 2006). Specialization, proximity, and cooperation are said to be the most common factors within clusters, which leads to alliance, spill-overs and innovation in the regional innovation system (Doloreux & Parto, 2005). Asheim & Coenen (2005) add that in a policy context it is important to recognize the sector specificness of clusters and the more general and broad sector inclination of RIS.

According to Berzina & Garanti (2013), clusters play a crucial role when it comes to encouraging and facilitation of organisations performance, innovation capacity and competitiveness. To achieve competitiveness, the various key players within clusters can be complemented by 'brokers' known as intermediaries or cluster initiatives. Cluster initiatives can be considered as a 'middle hand' that works for connecting the nodes between the different actors within both a RIS and a cluster to facilitate innovation processes (Cook et al., 2007).

3.6 Cluster Initiatives

According to Laur et al. (2012) cluster advantages are often facilitated by certain organisations that take an intermediary function in the cluster. The actors who work as the 'links' between the different nodes, are called intermediaries (Howells, 2006). In a cluster, these types of organisations can both be referred to as intermediaries or cluster initiatives (Laur et al., 2012). As stated in the delimitations, in this study, the authors have chosen to refer to the term as a cluster initiative which takes the role as an intermediary between the actors in a cluster.

Regional cluster initiatives have been gaining more attention from several policy makers, researchers and practitioners (Berzina & Garanti, 2013). Cluster initiatives are often organized with the intention to facilitate and develop services and activities for the specific members (Laur et al., 2012). According to Kettles & Memedovic (2008), the definition of a cluster initiative is collective activities that are planned and performed by actors in a cluster such as groups of firms, governmental agencies and various institutions in order to increase a specific cluster's competitiveness. These activities could for example be to create platforms which facilitate the interaction between the members in the cluster (Ketels & Memedovic, 2008). According to Howells (2006) the definition of a cluster initiative with an intermediary role is *"an organisation or body that acts as an agent or broker in any aspect of the innovation process between two or more parties"* (;720). Inkinen & Suorsa (2010) argue that the role of cluster initiative and regional intermediaries is to act like networking organisations. The work of the cluster initiative is to communicate funding opportunities and regional development activities to businesses and the public sector. The work of a cluster initiative is often communicated through smaller meetings or conferences (Inkinen & Suorsa, 2010). Clark & Ramirez (2014) stress that a broad range of organisations can play the role as an intermediary in a cluster. Examples of these organisations can come from the private, public and the nonprofit sector (Clark & Ramirez, 2014).

According to Foster et al. (2015) organisations which have the role of intermediaries are to be embedded in clusters in various scopes. These organisations should have specific knowledge, competences and skills concerning the area of field (Foster et al., 2015). Additionally, the role of an intermediary should to a large extent have knowledge regarding the specific region. By having knowledge about the specific region, it facilitates the recognizing of the needs that actors within the cluster and specific industry have. This is beneficial when the cluster initiatives try to enable interaction between the actors (Smedlund, 2006). The role of a cluster initiative in RIS and clusters, is spread from acting as a bridge between different actors, connecting them and encourage relationships and collaboration and to act as a facilitator to spread capability, knowledge and competency and to fill in the gaps needed (De Silva et al., 2017; Smedlund, 2006; Howells, 2006). In order to facilitate innovation processes in a RIS and in clusters, the main task of a cluster initiative is to link actors together, establish relationships, gather and communicate information to the actors in the RIS, act like a support in the different steps in the innovation process (Howells, 2006).

Several authors define cluster initiative diversely, however the main interpretation of a cluster initiative according to the authors is of an organisation that facilitates the links between various actors in a cluster to increase the specific cluster's competitiveness. This statement also corresponds with what the association Telematics Valley aims to do. In the perspective of intermediaries who work as ‘links’ between actors in innovation processes, Telematics Valley can be considered as a cluster initiative with an intermediary role for the organisations within the field of telematics in the Gothenburg region.

4. Theoretical Framework

This section will provide a detailed explanation of the theoretical framework used for the study. The model of 'crucial success factors for cluster initiatives' by Klofsten et al. (2015) is used as the main theoretical framework, which is further merged with the framework "Regional Cluster Effect on Regional Growth and Development" by Berzina & Garanti (2013) to create an adapted framework to answer the research question regarding regional growth and development. In addition, the Four Actions Framework by (Kim & Mauborgne, 2010) is also briefly presented, which will be utilized to communicate the recommendations for potential future actions for Telematics Valley.

4.1 Success Factors In cluster Initiatives

In order to answer the research question regarding what crucial factors that are needed for Telematics Valley to become successful in the regional cluster, a theoretical framework focusing on the general success factors of a cluster initiative will be presented and explained in depth.

Klofsten et al. (2015) have presented the *qualitative success factors* for cluster development. According to these authors, qualitative success factors are used less because they are hard to measure and define. The crucial success factors that are presented by Klofsten et al. (2015) presents a framework for managing and monitoring cluster initiatives. The framework enables performance evaluation and is useful for everyday management as well as policy programmes created to aid cluster initiatives (Klofsten et al., 2015). The defined factors provide assessment for not only a single cluster but rather diverse clusters, which differ in size, characteristics, activities etc. Therefore the framework aims to present a holistic perspective and visualise the success factors for a cluster initiative development, which are applicable and useful for a diverse range of cluster initiatives. The idea is to identify success factors that are capable of assessing the cluster dynamics and to analyse the qualitative elements like focus and environment, irrespective and independent of the cluster type.

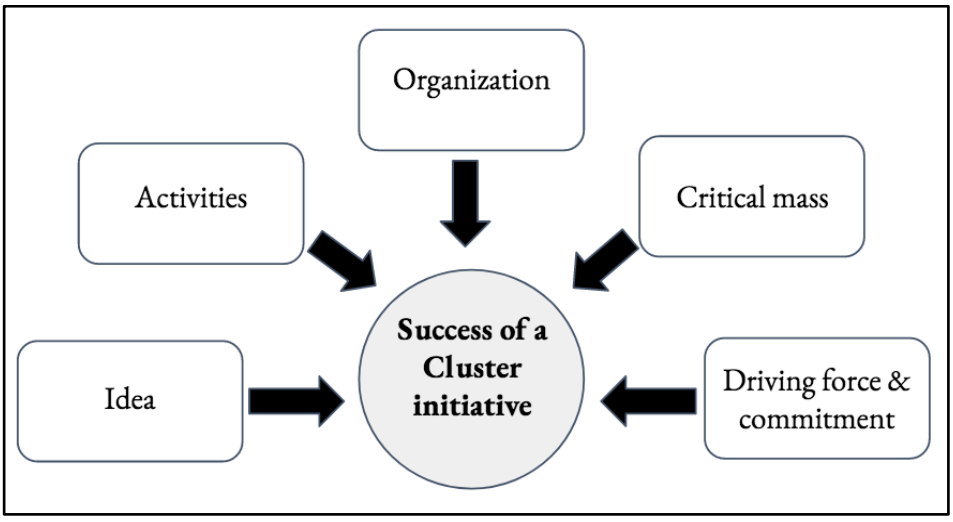

Figure 2: *'General success factors in cluster initiatives'* (Klofsten et al., 2015) (Adapted by the authors)

The five essential factors identified by Klofsten et al. (2015) for successful cluster initiatives are as follows:

Idea: Klofsten et al. (2015) stress on the importance of a well-defined and properly visualized idea. This assists in the identification of the right target group and learning about the exact needs ought to be addressed by the cluster initiative. Also, this factor enables the cluster initiative to be aware about the resources that need to be available for the members. Several studies emphasize the presence of a feasible cluster idea as a key to its success. Moreover, Klofsten et al. (2015) state that representing a cluster initiative in a strong trademark creates and contributes towards a sense of community and belonging, among the cluster initiative members.

Driving Forces & Commitment: The basis of the second factor is focused on the involvement of committed members, who embody the right eagerness, enthusiasm and vigour, to be able to carry out the necessary activities by a cluster initiative. According to Klofsten et al. (2015) managing networks and exploiting potential opportunities in a cluster, are a big part of developing a cluster initiative. Therefore, if there is an absence of dedicated and motivated individuals, it is difficult for a cluster to further develop and progress. In addition, Klofsten et al. (2015) highlight the importance of the presence of a core group to support various activities. This group comprises core individuals supported by a steering committee. It is emphasized that the core group and the driving factors are essential elements, which characterize the ability or inability of organisations.

Critical Mass: This factor stresses on the significance of having a sufficient number of members for a cluster initiative to develop, and for it to have meaningful interactions and exchange. The group of active members should be large enough to constitute critical mass (Klofsten et al., 2015). Furthermore, it is also stated that lack of diversity limits the opportunities for valuable exchange between the members, specifically if the cluster initiative is small. Similarly, if the variety is immense in larger cluster initiatives, then that could negatively impact the cohesion and effectiveness of exchange as well. Klofsten et al. (2015) also addresses the importance of informal and formal networks of exchange in cluster development. Committed members and a culture that promotes trust and openness are important for cluster development. It is stressed that for a cluster to grow and strengthen, there is a need for a constant diverse influx of individuals with a range of varying skills, experiences, background and knowledge. The type of actors involved also plays a critical role beyond a certain number of members. For example the Triple Helix model visualises 3 main actors to be involved in the regional development: firms, universities and society. These actors can be in the private or the public sector and also in the non-governmental organisations, which provides diversity in outlook and perspectives (Klofsten et al., 2015).

Activities: This factor denotes the needs for planned activities, which makes it beneficial to be a part of the cluster initiative. Some key activities highlighted by Klofsten et al. (2015) are: training and education programmes, activities to promote networking and creation of relationships. The crucial aspect is that the activities should complement and not compete with the existing activities

which are being offered in the cluster. The activities need to be based on the skills and services which are already available in the region and specifically have been developed for the cluster. Furthermore, several factors which might enhance the attractiveness of the activities have been stated. For example how well the activities are adapted to the firm and its degree of maturity. Another example is the presence of entrepreneurs, who are also labelled as 'champions' and how they impact and act as mentors and role models for young entrepreneurs in the region. These individuals can also act as the visionary forces for the cluster initiative development.

Organisation: This factor refers to the skilful and organised ways of coordinating and developing activities for the cluster initiative, and the management of relations essential for its development and further growth. The activities and programmes carried out include the kind which are developed to suit the needs and desires of the members. Also, establishment of links with outside actors like financiers and policy actors, who have the potential to influence the cluster activities.

4.2 Cluster Initiative As Driving Force For Regional Development

Berzina & Garanti (2013) describe a regional cluster based on five elements; governmental institutions, education and other institutions, enterprises from the industry, related companies and lastly, the regional dimension which combines the four dimensions which were stated above. These key actors in the cluster are greatly dependent on the structure and support of the region (RIS) (Asheim & Coenen, 2005). Even though the development of a region does not solely rely on the presence and expansion of a regional cluster, the cluster consists of various interactions of the actors that are needed for a region to grow and develop. In order to facilitate the interaction between the various actors in a cluster, cluster initiatives can act like the middle hand between the various actors in a cluster to encourage innovation and develop regional growth (Cook et al., 2007). Sölvell et al. (2003) state that cluster initiatives can be defined as organized efforts that aim to increase a regional cluster's competitiveness and growth. *(See figure 3 below).*

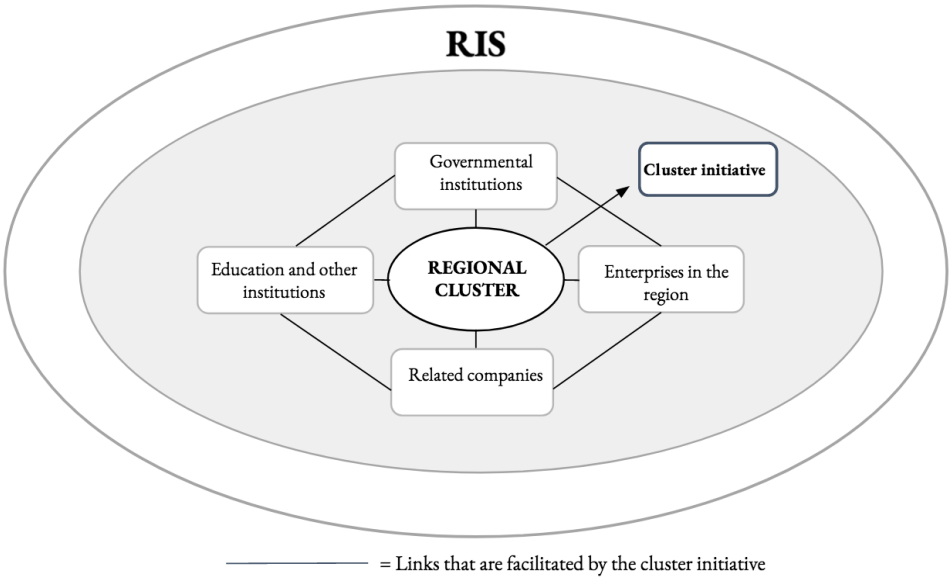

Figure 3: '*Cluster initiative in a regional cluster'* (Berzina & Garanti, 2013) (Adapted by the authors)

In order to answer the research question regarding how Telematics Valley can contribute to regional growth and development depending on the actions it takes, prior literature was looked into to describe the relationship between how the success factors of a cluster initiative can contribute to regional growth and development.

Previous studies have proven that regional clusters can contribute to value enhancement for the actors in the clusters and the economy of a region (Porter, 2000; Sölvell et al., 2003). This type of enhancement derives from knowledge transfer, flows of information, networks, collaboration and infrastructure (Porter, 1998; Sölvell, 2009). According to Berzina & Garanti (2013) clusters play a crucial role when it comes to encouraging and facilitating organisation's performance, innovation capacity and competitiveness. Further, cluster theories argue that the productivity, competitiveness and innovation capacity of a cluster can stimulate job opportunities in a region (Puga, 2009; Porter, 2003). Clusters can therefore ensure regional development through providing a supportive environment for business development (Stimson et al., 2006). Since it is stated that clusters can enhance productivity, competitiveness and innovation capacity in a cluster, this means that the cluster can enhance innovation and create job opportunities. This can result in cluster competitiveness (Berzina & Garanti, 2013).

In order to achieve cluster competitiveness, the various key players within clusters can be complemented by cluster initiatives who work for connecting the nodes between the different actors within both a RIS and a cluster to facilitate innovation processes (Cook et al., 2007). The main thing that is crucial for a cluster initiative to do, is to identify the needs of the actors within the cluster and facilitate and support these needs (Sölvell et al., 2003). The success factors of a cluster initiative can therefore impact the whole cluster which in turn can have impact on the whole region. If a cluster is provided with the facilitation of these types of interactions, support and structure from a cluster initiative that it needs to become competitive, this can in turn affect the region's growth and development since the cluster creates a favourable environment for business growth, survival and establishment of new businesses (Berzina & Garanti, 2013). In turn, a favourable environment will also have an impact on regional growth and development (Berzina & Garanti, 2013).

The stated success factors of a cluster initiative *(a distinct and fundamental idea; driving force and commitment; well-developed and structured activities; a defined target group and a functioning organisation structure)* can facilitate the processes in a cluster and benefit the members within the cluster (Klofsten et al., 2015). The competitiveness of the actors in the cluster and the regional cluster in whole can therefore also lead to that the region benefit from how well a cluster initiative handles the stated success factors that are needed in order to become successful. The merged framework is visualised in the *figure 4* below.

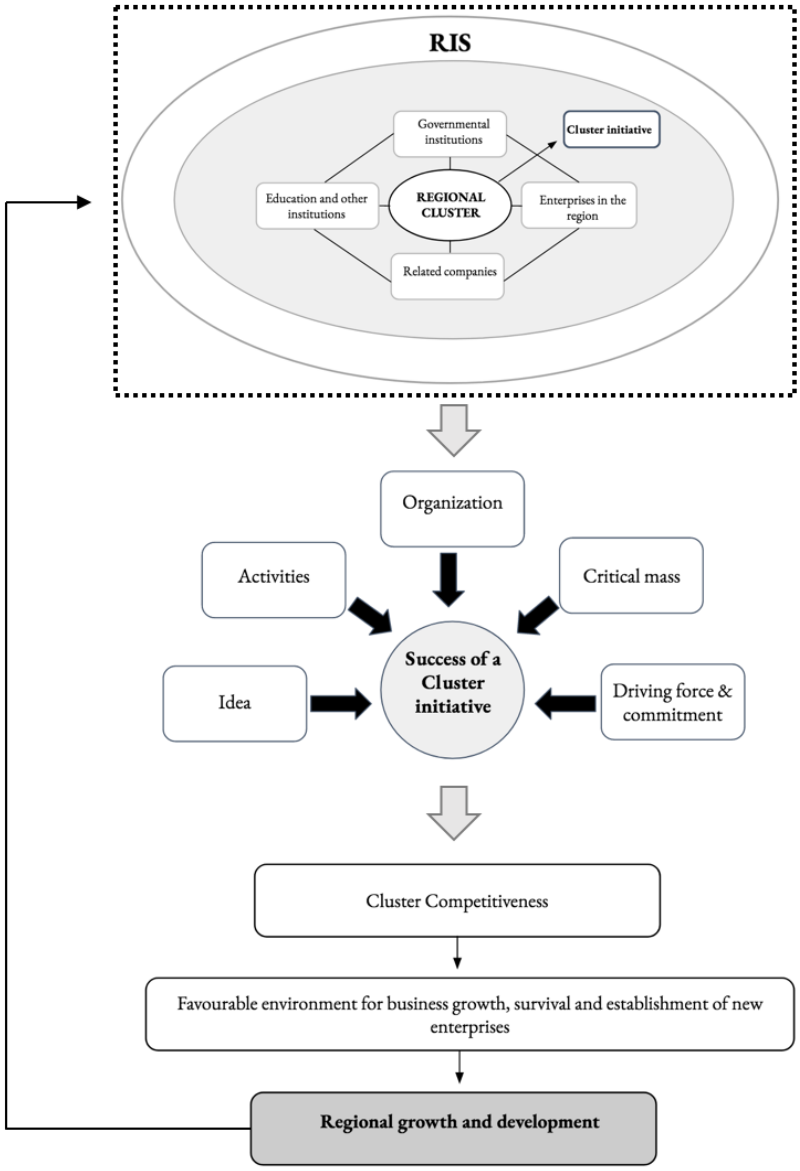

Figure 4: *'Framework of "General success factors that contribute to regional growth and development'*
(Compiled by the authors)

However, it is evident that the growth and development of a region is not only reliant on the presence of a cluster or the success factors of a cluster initiative (Asheim & Coenen, 2005). Nevertheless, a cluster and the organisations that act like an intermediary in a cluster consists of numerous interactions of the main factors that are needed for a region to grow and develop (Chapman, 2009). If cluster initiatives achieve the success factors from the stated theoretical framework, it can in turn provide the region with favourable conditions which impact the competitiveness of the cluster. This can in turn contribute to a favourable environment for business growth, survival and establishment of new businesses, which are key factors that can provide the region with favourable conditions which can enhance the growth and development of a region (Berzina & Garanti, 2013). For this to function, the structure and systems of the region needs to support the cluster with the preconditions that are needed. Therefore, there lies a great emphasis on the RIS of a region (Asheim & Coenen, 2005).

4.3 The Four Actions Framework

The Four Actions Framework is derived from the Blue Ocean Strategy by Kim & Mauborgne (2005). The main idea of this strategy is for an organisation to find a market space which is uncontested (the blue ocean) and stay away from establishment in a marketplace where there is a lot of competition (red ocean). The Four Actions Framework focuses on the crucial elements or factors that aid in the creation of a new value curve. The framework poses four key actions or questions that will lead to the creation of value innovation that will aid to enhance a current product or offering (Kim & Mauborgne, 2005). The key factors mentioned in the framework are: *raise, reduce, eliminate and create.* The framework is visualised in the *figure 5* below.

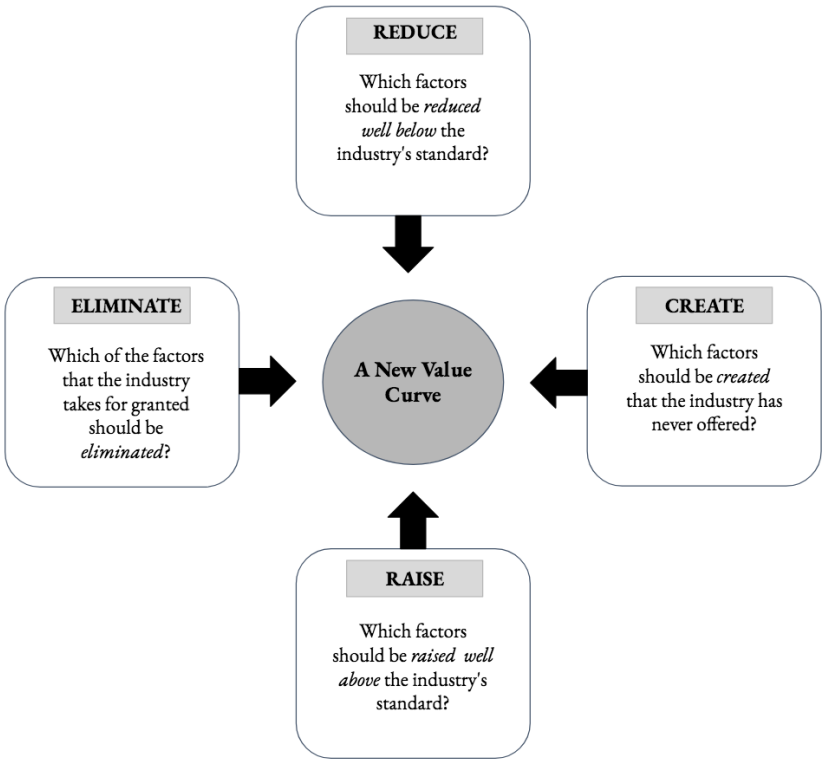

Figure 5: '*The four actions framework of Blue Ocean strategy'* (Kim and Mauborgne, 2010) (Adapted by the authors).

The key dimensions/factors mentioned in the framework are explained below:

1. Eliminate: The first question focuses on the elimination of the factors that are taken for granted in the industry and have long been competed on. Kim & Mauborgne (2005) state that oftentimes factors do not offer any value since the market constantly undergoes fundamental changes and the industry and the companies are unable to perceive the change. The factors that are taken for granted therefore needs to be eliminated.

2. Reduce: This factor forces organisations to reconsider whether their offerings are over-designed and over-serving the consumers, simply to match and beat the relevant competition, thus increasing the costs.

3. Raise: This factor aims to minimise and reduce the compromises that the industry compels the consumers to make. Therefore, it stresses on the factors that are required to be raised well above the current set standard of the industry.

4. Create: This involves creating and finding new value for the consumers and the creation of a new demand, offerings that have previously not been offered in the industry.

The four key dimensions from this framework will thus be used to frame and present the recommendations for Telematics Valley. This particular framework is used because there are various types of literature that focuses on how organisations can beat competition and gain competitive advantage. Kim & Mauborgne (2005) however argue that organisations should not focus on the existing competition in the market. The Four Actions Framework therefore focuses on challenging the ordinary success strategies and how an organisation should create an unchallenged market space through creating value that has not previously been offered on the market. Since Telematics Valley wants to provide more value for its member organisations and explore how the association can contribute to regional growth and development, the Four Actions Framework is a suitable way of structuring future recommendations since it is about the systematic approach of making competition irrelevant. Furthermore, the Four Actions Framework has proven effective for bridging theory to practice in the past (Morris, 2007; Madden 2009).

5. Research Methods

This section will focus on the research methodology and will include the research approach, strategy and study design. After that, the data collection and analysis approach is presented. Finally, some important considerations regarding the research quality will be addressed.

5.1 Research Approach

Bell et al. (2019) state two methodological strategies which are the most common in research: *inductive and deductive*. Each one takes a different approach to how they connect a phenomenon to an existing theory. According to Bell et al. (2019) the deductive approach involves the formulation of hypotheses about the research phenomenon, to test the fit between the already existing theories. Therefore the deductive approach is all about testing the theories. Whereas the inductive approach studies a phenomenon, and then develops an appropriate theory to explain the studied phenomenon.

For this study, the chosen theoretical approach is the *inductive* approach. Since the authors began with collecting the data which is relevant and appropriate for the research question. After this, patterns in the data were analysed and observed to develop a theoretical framework which could explain these patterns. The reason for choosing the inductive approach was due to the inductive approach being linked to qualitative research. Moreover, it suits the interest of the study, which aims to investigate what actions Telematics Valley should undertake to provide more value for its members and also to enhance the regional industry. Multiple actors relevant for the aim of the study were interviewed to collect appropriate data, which allowed us to analyse the collected raw data and the development of an adapted framework, to answer the research questions.

Furthermore, the scientific perspectives for the research had to be considered. For this study the ontological position can be stated as *constructionism,* since there was a certain degree to which subjectivity was applied during the process of the interpretation and analysis of the collected data and the theoretical perspectives (Slevitch, 2011). The epistemological position and perspective of the research is *interpretivism*. As the authors interpreted the collected data, which can be subject to their biases. This is similar to the *post-positivist* approach as well where the values of the researchers can have an influence on what is observed (Slevitch, 2011).

5.2 Research Strategy

To answer the research questions regarding the crucial success factors required by cluster initiatives and what actions Telematics Valley should take to contribute towards regional growth and development, a *qualitative research* strategy was chosen. According to Bell et al. (2019) the qualitative research strategy primarily emphasizes an approach that is inductive and is suitable when the aim of the research is to discover observations and patterns to develop a theory.

According to Bell et al. (2019) the qualitative research strategy is a way for the researcher to attempt to look at this specific phenomenon through the perspective of the selected respondents.

In order to get the perspectives and insights from actors that are involved in the telematics industry, a rich set of data is needed to be able to gain an overview of the area. This type of data can be collected through the investigation of the interpretations and experiences from actors in the industry - justifying a qualitative research strategy.

The qualitative research strategy can be described as a strategy that emphasizes words and other non-numeric data to be able to collect and interpret text. The qualitative research strategy is the opposite of the quantitative research strategy that is used for analysing numerical data (Creswell, 2014). The qualitative research primarily takes perspectives of how individuals interpret their social reality that continuously changes, which differs from the quantitative research. Quantitative research does not have the same objectives to create understandings of the environment and how the social world is interpreted by different individuals and groups (Bell et al., 2019). According to Creswell (2014), the qualitative research strategy should be used when the aim is to comprehend groups and individuals' diverse experiences and insights regarding a certain phenomenon. The aim is later to gather the different observations and try to find and identify relationships or patterns that can be used as a foundation for additional exploration and new hypotheses (Creswell, 2014).

A qualitative research strategy was the most appropriate strategy for this particular study for the investigation of the stated research questions. It was required to collect a rich qualitative data set through exploring different opinions and perspectives of several organisations and relevant individuals in the industry. The respondents that participated in this study, represented relevant organisations with valuable insights regarding Telematics Valley. The insights that were given from the respondents, generated a bigger picture of what Telematics Valley can do and offer for the member organisations and what Telematics Valley needs to entail to boost regional development and growth. Since the aim of the study is to explore and gather the different observations and opinions regarding Telematics Valley, the research is exploratory in nature.

Bell et al. (2019) highlight the risks that are related to the qualitative research strategy. This specific chosen strategy has a tendency to be biased due to the possibility that the researcher unconsciously applies subjective interpretations that can affect the data collection and the result of the research. Another risk is that the data collected from a sample does not represent the entire population and therefore, lack of data is a fact. This choice of strategy can therefore hinder the analysis of the results and create misleading conclusions. However, the qualitative research strategy is more flexible than the quantitative research strategy. The qualitative research strategy allows the researcher to explore a focus area more in depth, which cannot be done in the same way if choosing a quantitative research strategy. However the authors have tried their best to be objective in the analysis and interpretation of the data collected.

5.3 Research Design

This research is a single case study, which takes the perspective of a specific organisation - Telematics Valley into account. Multiple organisations are involved in Telematics Valley as members which requires the collection of data from multiple relevant organisations and individuals in the industry, which gives different opinions through qualitative interviews. The

single-case study can contribute to the in-depth-understanding and investigation of a certain organisation, individual or community (Bell et al., 2019). In contrast to a multiple case study which compares several cases and compares the data that is collected with each other, a single case study aims to deep dive into one specific case.

The aim is to investigate Telematics Valley and how the organisation is perceived and experienced by several actors in the telematics industry. The chosen research question was constructed in a way to find the crucial success factors that could benefit the member organisations and the enhancement of regional growth and development. A single case study was therefore chosen as the study design for this study. According to Siggelkow (2007) case studies can be perceived as a struggle, since it can be seen as a challenge to convince the readers. Siggelkow (2007) further states that many researchers perceive the obstacles of not having a sample that is big enough and that the data have a tendency to be biased. However, the selected respondents provide the type of data that is relevant for investigating the specific topic (Siggelkow, 2007).

This research was based mainly on the conducted interviews with relevant organisations. The greatest benefits with the single case study is that it can improve theory-building. Furthermore, this research design can also help to suggest several concepts that can be relevant to a theory that are emerging. According to Yin (1984) and Eisenhardt (1989), the researchers have a better position to create the conditions when it comes to which a certain theory will hold or not hold (Yin, 1984; Eisenhardt, 1989). Flyvbjerg (2006) argues that there are five usual misunderstandings when it comes to case studies, and one example of these misunderstandings is that a case study tends to be subjective. However, Flyvbjerg (2006) argues that biased interpretations and subjectivism are not just applied in qualitative methods, it applies to all methods. The authors further state that the advantage of the case study is that the researcher can go into depth of the topic but the disadvantage is the breadth (Flyvbjerg, 2006).

Before the interviews took place, all actors that were of value for the data collection of the study were accurately inspected. To ensure the quality of the study, only actors that can provide valuable insights of the ongoing activities in the telematics industry and the perceived dynamics of being a part of a cluster were chosen for interviews.

5.4 Data Collection

The goal of Telematics Valley is to facilitate the network of the actors in the telematics industry who are based in Gothenburg. Companies that are members of Telematics Valley would therefore be suitable for the researchers to interview since they can provide with internal insights of how Telematics Valley functions. To get a broader understanding about how Telematics Valley is perceived from the outside and to get a more general understanding regarding what actions the organisation can take, actors who are involved both in the telematics industry, non-profit organisations focused on regional development and a few cluster organisations were chosen for interviews. Some of these actors were located in different parts of the world, such as France, Finland, United States, Israel and Germany. Actors from other organisations and associations

within the automotive, telecommunications and other connected industries were also interviewed. The aim was to interview respondents from relevant companies who could give valuable insights regarding Telematics Valley.

5.4.1 Primary Data

This study is qualitative in nature and this required obtaining insights and information from various business executives working in the telematics industry, cluster organisations and members connected with Telematics Valley. Therefore, interviews are deemed to be the most suitable and appropriate method for primary data collection. Interviews are crucial and the most widely used method for data collection in qualitative research (Bell et al., 2019) and their significance and effectiveness has been widely recognized. It enables the researcher to investigate respondents' views and perspectives in great detail (Alshenqeeti, 2014). The interviews produce narrative data which is derived from a conversation that reveals in-depth insights and information regarding a certain domain or topic and assists in comparability of collected responses. Interviews are generally broadly divided into two main categories: *unstructured* and *semi-structured* interviews (Bell et al., 2019).

5.4.1.1 Semi-Structured Interviews

In order to answer the research question, the authors chose to conduct *semi-structured interviews,* which follow a predesigned interview guide (Appendix A) to collect the data. Semi-structured interviews are chosen to be most suitable for answering the research question and collecting primary data since this method allows for having a structure yet also provides flexibility to the interviewees to express their viewpoints (Bell et al., 2019). This method also provides room for interviewers to ask any additional questions and thus gives freedom for both the parties to engage in meaningful conversations and discussions on specific topics (Bell et al., 2019). It is of great importance that the pre-formulated questionnaire for the interview has to be precise and well-formulated (Bengtsson 2016), so the researchers are able to collect useful and accurate data for the study.

The interviews were conducted through two main channels: *face-to-face* (F2F) and *digital*. The F2F interviews are valuable since they provide the opportunity to observe the interviewees' body language and visual cues (Bell et al., 2019). In addition, they are good in terms of avoidance of distractions and any kind of technical difficulties that may arise during the interview. However, considering the current scenario with Covid 19, conducting digital interviews will be inevitable and a viable option to connect with the interviewees. Thus, digital tools like Zoom and Microsoft Teams were utilized for seamless communication. An achievable number was to be aimed for the interviews, which allowed for the adequate collection of appropriate data. In total, 18 respondents were interviewed. One pilot interview also was conducted, however this interview was not intended for data collection. The estimated time period for each interview was between thirty minutes to an hour approximately, which the researchers believe to be sufficient time for engaging in worthwhile and insightful discussions.

The interviews were audio recorded with the consent of the interviewees and once the interviews were successfully carried out, the collected data was then manually transcribed. Audio recording of the interviews is considered to be pivotal since it allows the interviewers' to be alert and maintain focus on the conversation and not on the writing of notes, which could be a possible source for distraction (Bryman, 2012). In addition, recorded interviews are useful tools since they can be used to refresh the memory in case of neglected or forgotten details (Bryman, 2012) thus, it can assist in the minimisation of potential errors. Additionally, it was made certain that both the researchers were present for the interviews. This was to ensure that no bias should interfere with the study, since qualitative research is prone to generating biased results on the basis of subjectivity of the interviewer (Andersen, 1998). Therefore, the presence of both the researchers was for the elimination of the subjectivity bias to get in the way of the study.

5.4.2 Interviewee Selection

The participants for the study were chosen through *purposive* sampling. The purposive sampling is incorporated in most of the qualitative research (Bell et al., 2019) and is conducted based on the aim and purpose of the study. For this study, the participants were chosen and provided by the network of Business Region Gothenburg and Telematics Valley. The chosen respondents were based on purposive sampling to specifically find participants who match the objective of the study and will be from organisations across telematics and connected industries. Majority of the respondents were located in the Gothenburg region, in addition actors related to telematics, which are located internationally were looked into. The respondents will thus have valuable information and insights to share on how this platform further can positively impact the members in the cluster initiative and also, the region. The list of respondents is provided below.

Organisation	**Respondent code**	**Role**	**Involvement in Telematics Valley (TMV)**	**Interview Duration**	**Channel**
Pilot Interview: E-Mobil	*Will not be considered in the data (pilot)*	Director of International Cooperation		21 min	Digital
Volvo Cars	Respondent 1 Respondent 2	Business Strategist, Volvo Cars System Developer	President of TMV Board	1h 09 min	F2F
Next Forward	Respondent 3	Founder & Senior Advisor	Former Board member of TMV	34 min	Digital
Business Oulu Business Finland	Respondent 4 Respondent 5	Risk Management Consultant Director, Internationa Operations IIF		34 min	Digital

Wireless Car (US)	Respondent 6	Regional Director of America	Former Board member of TMV	42 min	Digital
Carmenta	Respondent 7	Head of Developmen	Current Board member of TMV	35 min	Digital
Fordonskomponentgruppen	Respondent 8	Senior Advisor & Project leader		31 min	Digital
WirelessCar (Sweden)	Respondent 9	Vice President Strategy, Product Management & Partnership	Former Board member of TMV	28 min	Digital
Cara (France)	Respondent 10	General Director		38 min	Digital
Ericsson	Respondent 11	Head of Portfolio Marketing IoT	Current Board member of TMV	42 min	Digital
Here Technologies	Respondent 12	Head of Nordic Automotive	Current Board member of TMV	31 min	Digital
MobilityXlab	Respondent 13	Director		17 min	Digital
Publicis Sapient	Respondent 14	Head of Nordics	Current Board member of TMV	36 min	Digital
Volvo Group	Respondent 15	Director CoE Advanced Analytics	Current Board member of TMV	47 min	Digital
Telia	Respondent 16 Respondent 17	Head of Industry, Urban Transport, Division X Business Partner Manager	Current Board member of TMV Current Board member of TMV	56 min	Digital
DRIVE Tel Aviv	Respondent 18	CEO		29 min	Digital

Table 1: *'List of respondents'* (Compiled by the authors)

5.4.3 Secondary Data

The secondary data was collected by learning about the telematics industry, RIS, clusters and cluster initiatives. The secondary data was used to get an understanding regarding telematics and the cluster initiative Telematics Valley. Furthermore, how it works within the regional industry in Gothenburg, and to gain relevant information regarding the research topic. This was carried out in the early phases of the project to develop a broad perspective around the subject and help the authors to get familiar with it. The secondary data collection was essentially carried out by searching for keywords regarding 'Telematics Valley' on the web, which was the key to finding crucial information which is easily accessed online. The authors will also conduct an extensive literature review in the starting phase and since the study aims to investigate how Telematics Valley can contribute towards the development and growth of Gothenburg region within the telematics industry.

5.5 Thematic Analysis

Thematic analysis is one of the most common approaches for qualitative data analysis (Bell et al., 2019) and it is argued to be the fundamental analysis method in qualitative research (Braun & Clarke, 2006). This is a procedure which entails the generation and categorisation of *themes* based on the analysis and description of the collected empirical data (Braun & Clarke, 2006). A thematic analysis was considered appropriate to answer the research questions. This is because thematic analysis leaves more space for the researchers to have an illustrative approach. However, it has to be acknowledged that themes are subject to interpretation bias (Bryman and Bell, 2015) and thus the researchers ensured to employ ways to minimise its influence on the analysis.

The authors first began with transcribing the data verbatim and then familiarised themselves with it. Thereafter, the collected data was coded. Bryman & Bell (2015) describe how the transcribed data can be coded into several levels for the qualitative data analysis. The coding process begins with the first-level coding (Bell et al., 2019), which summarizes all the interesting and relevant information into different terms and phrases. In the next step, the authors used the coherence of the first-level codes and used them for the generation of second-level codes - which was further sorted into different concepts or categories. It is of utmost importance that the researchers do not lose the context when coding the data, which can potentially lead to misinterpretations. Also, it needs to be ensured that any vague and unclear message should also not be taken into account when coding in order to eliminate the risks of citation bias. The next step was to involve the identification and generation of themes based on the derived concepts, and the final step was about further refining and evaluating these themes and eventually giving them names. The data analysis process is visualised and elaborated in the Appendix B.

Bryman & Bell (2015) also suggest the researchers to code the same data separately to mitigate the possibility of subjectivity bias. Therefore the researchers went through the transcriptions individually and gave their suggestions in order to arrive at a consensus.

5.6 Research Quality

5.6.1 Validity

Validity is a very important criterion of research, since it refers to the measurement of legitimacy and truthfulness of the results and the conclusions made from a specific field of research. To be able to ensure the validity of the research, several methods were used throughout the process. Throughout the study, there has been an immense effort on keeping the validity high of the study. According to Bell et al. (2019) qualitative data can have the tendency to be subjective. Since qualitative data can fail in quality due to the lack of consistency and the full overview over the entire population, the choice of the interview structure was semi-structured interviews. Another way to create validity of the study was through carefully identifying and selecting appropriate respondents when collecting data. The respondents were individuals with great insight within the industry and who had a relevant management position in the chosen organisations.

Another way to certify the validity of the work throughout the study, was to constantly work towards the research aims that were clarified in the beginning of the process. This resulted in the process having a steady direction from the beginning to the end. Through providing the reader with an explanatory and in-depth research methods description, the trustworthiness can be considered higher since the reader can follow the decisions and procedure in detail. The study will throughout the entire process be reviewed, evaluated and analysed by a supervisor from the Gothenburg University and two supervisors from Business Region Gothenburg, who are well-informed within the area of investigation.

All information that has been gathered throughout the study has been revised to ensure that all sources and facts are trustworthy and up to date. The secondary data that has been gathered has been assessed by the use of a triangulation method. This means that all information which has been provided by secondary data has been separately validated from more than two sources (Bell et al., 2019). In order to avoid biased results, an objective and neutral perspective was applied both during the collection and analysis of the qualitative data.

5.6.2 Reliability

Reliability is referred to the concern of a study being repeatable. Reliability is often a concern in quantitative research since we cannot trust unreliable measures since there is no faith in its consistency. Reliability is also often referred to the replicability of a study which can be a problem with qualitative studies. Sometimes findings from other researchers can be replicated by other researchers for different reasons (Bell et al., 2019). To be able to prove the level of reliability throughout the study, there has been a constant strive towards a high level of transparency and comprehensive clarifications and regarding choices throughout the process.

According to Bell et al. (2019) the reliability of research is the extent where results are steady and reliable over time and if the same study could be recreated with the use of the same methodology. The telematics industry is evolving and a lot has happened in the last 20 years. With the technology and knowledge that are accessible today, this means that the industry will

go through major changes in the near future. This means that the findings in this research, which are based on the current situation and circumstances, might have been different in the future where the conditions will be changed. Therefore, the data and the findings from this study cannot be ensured to be stable over time.

5.6.3 Research Ethics

When conducting the interviews, there was a solid focus on that no harm should cause the respondents of the study. To ensure this, all respondents' names were therefore anonymized. All respondents were informed about the purpose of the research and the interview. Further information about the research area was also given in advance for their consensus for participation. In order to find and uncover the possible challenges with the chosen qualitative strategy, the interview questions were relevant, open, non-leading and of high quality so as to not mislead the respondents.

6. Empirical Context

This section gives additional detailed background of the current and future state of the telematics industry. Thereafter, telematics within the context of different industries is elaborated on and clusters and telematics competence within the Gothenburg region is also discussed. Lastly, a brief overview of the association - Telematics Valley is briefly presented.

6.1 Telematics

Telematics systems can be used in different kinds of network-enabled devices and examples of the areas are; wireless connectivity, electrical engineering, computer science, and vehicle technologies. Telematics has a broad range of applications in the automotive sector, which is why this sector is highlighted the most within the telematics industry.

6.1.1 Telematics Industry Development

Even though telematics has grown more popular during the last two decades, the term first developed during the 1960s. In the late 1990s, when the three breakthrough innovations; Internet, Global Positioning System (GPS) and communication between machines emerged, the development of telematics advanced (Telematics, n.d). This is the time when the information society was born. In the beginning of the 21st century, the development of telematics systems developed and the service of real-time information to distant networks began to be used more frequently world-wide. Back in the 1990s, telematics was used mainly for vehicle tracking (Frana, 2018). The application of telematics has shifted from focusing on localizing vehicles to focusing on the driver of the vehicle, the safety of the driver and the people around the vehicle (Mordor Intelligence, 2021). Today, Telematics systems can help to increase driving behaviour, road safety, minimize accidents, track stolen vehicles, support usage-based-insurance (UBI) and provide route and fuel optimization which is beneficial from an environmental perspective (McKinsey & Company, 2018).

Telematics is used in various industries and the development of telematics services today and the devices are constantly evolving. According to Vision Research Reports (2020), the reason why advanced telematics technologies are accelerating is due to the increasing consumer demand of high connectivity in cars and to that authorities mandate telematics services globally. Since telematics systems today can improve driving behaviour and road safety, this also means that the development of the telematics industry is opening up for cooperation and collaboration between businesses who are a part of the complex value chain of telematics.

With an increasing demand with a combination of governmental support, telematics technology will eventually become more and more conventional (McKinsey & Company, 2018). Another reason why the telematics industry development is advancing, is because the telematics industry is strongly interrelated with the development of the 5G technology. Real time data transmission between different devices demands advanced networks and 5G technology can increase the speed, handling and even the reliability of telematics systems. Another important technology that

has led the telematics industry to where it is today, is the technology of Artificial intelligence (AI) which transforms connected services to intelligent services. The smartphone has also enabled the development of telematics since it is the main source of connectivity today. Applications within smartphones facilitate the integration with connected solutions and it also replaces the traditional computer-based hardware. This means that the production costs are lower since it eliminates the manufacturing of physical devices and increases the accessibility of information for the users (Fortune Business Insights, 2020).

6.1.2 Telematics & Its Role Today and in the future

Telematics technology is the provider of several enticing and valuable services for people today. It is often referred to as the enabler of a variety of connected services and is the technology that has made the idea of a digital and connected car a reality. The term has a history of solely being associated with the automotive sector and is often cited as 'automotive telematics' as well (Cho et al., 2005). This notion still holds true, since the technology has gained most recognition and exploitation within the automotive industry, which has revolutionized the driving and the vehicle experience for the consumers today.

In the last two decades, the automobile has transformed from being an analogue machine to a digital car with computer-based systems (Cho et al., 2005). Where valuable services are provided through collection of data from vehicles, drivers and the overall telematics environment, which includes; traffic information, road conditions, weather data etc. (Yoon et al., 2008). We are now at a juncture, where telematics is not a future but a currently available technology (Yoon et al., 2008) that is in a need to be exploited and explored to create more value-added digital solutions and services. The question is not about the technology anymore, as it was perhaps two decades ago, but rather how to utilize it and how its potential for enabling exciting solutions can be explored in the coming future.

Yoon et al. (2008) stated the potential and possibility of new industries and business models to be exploiting this technology. In current times telematics is used across various industries and sectors, although still predominantly being leveraged in the automotive industry. According to Mckinzey & Company (2018) the current adoption rate still remains low across markets, which certainly has the potential to grow dramatically in the next decade. Today's adoption level remains below 20% for all countries globally. The expansion and development of the telematics market is expected to continue to increase during the coming five years. According to a report about the telematics market which considers growth, trends, Covid 19 impact and forecasts, the telematics market is predicted to have a Compound Annual Growth Rate (CAGR) of 20.7% between the years 2021 to 2026 (Mordor Intelligence, 2021). According to Vision Research Reports, between 2020 to 2027, the automotive telematics market is predicted to expand at a CAGR of 17% (Vision Research Reports, 2020).

6.1.3 Telematics Markets

The market for telematics and in general automotive telematics, is growing on a global level across regions (Vision Research Reports, 2020). The three main geographical regions which

create, utilize and develop telematics are: North America, Europe and Asia Pacific. All geographical regions differ when it comes to infrastructure, connectivity, overall wireless digital standards, regulations and the end-customers preferences and demand of telematics services (Fortune Business insights, 2020).

According to Vision Research Reports (2020), North America and Europe are the regions that have developed the most when it comes to automotive telematics. North America dominates the global telematics market due to a large amount of vehicles and increasing industrialization. The increasing demand of preventing accidents, theft minimization and safety of the passenger, driver and vehicle contributes to the region's market growth. Another reason why the North American market is one of the leading markets in the world, is because the U.S government is boosting the growth of automotive telematics in the region (Fortune Business insights, 2020). The telematics market in Europe is expanding due to both an increasing demand for precise navigation, remote diagnostics and safety regulations from governmental authorities (Fortune Business Insights, 2020). The telematics market in Asia Pacific is also showing growth. Large populations and high traffic activity increases the demand for Telematics systems in the regions (Fortune Business insights, 2020). According to Statista (2021), the telematics market penetration rate by countries across the world shows that the United States has the highest telematics market penetration (Statista, 2021).

Moreover, the willingness of facilitating and mandating telematics services by governmental authorities, have a large impact on a region's telematics market development (McKinsey & Company, 2018). As an example, European Commission made it mandatory to equip new passenger cars and commercial vehicles from 2018 with telematics eCall systems. The purpose of this decision is that in case the vehicle has an accident, eCall immediately dials the emergency number of Europe. This telematics system then communicates the precise time the accident happened and the position of the vehicle (European Commission, 2015). According to McKinsey & Company (2018), Russia mandated a system for new cars in 2017, comparable with the mandate that European Commission established. Mexico is trying to mandate radio-frequency-identification (RFID) devices in order to strengthen anti-theft systems for vehicles (McKinsey & Company, 2018). Also the GDPR policy impacted the fleet management by the operators and how the telematics data is gathered and processed (Fleet Europe, 2018). The policy forced responsibility for careful management and handling of personal data through telematics and connected cars. The EU implemented heavy fines in case of failure to comply with the policy.

6.1.4 Utilization Of Telematics Within Different Industries and Services

As stated earlier, the main industry that telematics is mostly recognized through is the enabled services and solutions in the automotive sector. However, telematics technologies have increased in various industries, organisations and societies. The rise of Internet of Things, GPS and the communication between machines enables the collection of sensor generated data that in turn generates various types of new business opportunities (Baecke & Bocca, 2017)

6.1.4.1 Automotive Industry

In the automobile sector today, the connected car is a major trend and telematics is used by all big car manufacturers to offer their connected and digital services. The *automotive telematics* refers to the communication service and vehicle information shared through the wireless communication link (Nolte et al., 2005). Integration of the communication technology has allowed for the deployment of new services and applications, and as a result, vehicles are offering more advanced services to the users. Nolte et al. (2005) highlight some of the main examples of telematics services used for vehicles as:

1. *Navigation and traffic information systems:* this involves the use of telematics to assist the driver to reach a required destination with real time traffic information.
2. *Voice recognition and wireless internet connection:* the ability to send and receive voice activated emails by the driver or the passengers.
3. *Safety systems:* Can ensure safe driving experience through collision avoidance systems, intelligent and automatic airbag systems. Enabling communication between the vehicle and its surroundings (vehicles and objects).
4. *Security systems:* Stolen vehicle tracking services and anti-theft systems.
5. *Diagnostic and maintenance services*: Vehicle data transmission can allow for vehicle and driver monitoring.
6. *Others:* door unlock/lock remote control system, car preconditioning (heating or cooling), emergency call (eCall) service. Black box insurance which can measure the driving style and the aspects of how, where and when the vehicle is driven to enable services like theft recovery and accidental alert.

6.1.4.2 Other Industries and Services

Telematics technologies can be utilized by car insurance companies to offer user-based insurance for the driver. Insurance companies can use the telematics data that is communicated from the car to offer their customers personalized driving feedback and possible cost saving on the customers car insurance depending on the insurance company's safe driving policy (All State, 2020). This enables insurance companies to offer all drivers individual insurance based on the individual's driving behaviour (Telematics n.d). Telematics data can inform the insurance companies about how the driver is observant on speed limits, other vehicles and obstacles close by the vehicle, how the vehicle is placed on the road, how the driver is acting when slowing down and accelerating the vehicle in different types of infrastructure and on different road conditions.

This type of information that the black box can provide to insurance companies gives all drivers individual insurance premiums depending on their driving. During the same time, the user-based insurance can also increase the driver's road safety and reduce the risks for theft and accidents since the telematics data reports the vehicles exact location (Telematics n.d). The data which is collected by the black box in the vehicle can inform the speed, length, time, location and distance of the route of the car, how the environment and the road conditions look like and as mentioned, how the driver acts when driving the car journey. Telematics can also contribute to a more

sustainable society through for example data regarding vehicle emissions and optimization of environmental impact of transport (Sleet & Naumann, 2011).

Telematics technologies can also provide flexible ways of improving transportation in society, such as buses, taxis and carpooling (Sleet & Naumann, 2011). Through communication systems such as vehicle location and positioning, digital maps and image processors, telematics can facilitate society's infrastructure and give precise information that is helpful for individuals, firms and society in general (Sleet & Naumann, 2011). Another important role of Telematics services is the feedback data from various fields into the R&D system (data driven development) for analysing trends and behaviours as an input to new features and products and to offer uptime services instead of products (Koch et al., 2020). Another sector where telematics has started to play a big role, is the healthcare sector. Telematics within health care refers to connected systems, activities and services which are health related and provided at distance (Kirch, 2008). Health telematics support health care in general through increasing the outcomes for patients by the large amount of medical care and information that can be transferred, no matter distances. The communication and information systems provide health care professionals with the information needed in order to evaluate diagnosis, treatments and prevention of injuries and diseases (WHO, 2009).

6.2 The Telematics Industry in Gothenburg Region

The Swedish economy is supported via collaboration between private and public actors (Ligenzowska, 2016). There is a wide-ranging network which consists of various firms and organisations that are supported by governmental bodies. A few examples of these governmental bodies that have the purpose of supporting growth in Sweden, is the Swedish Agency for Economic and Regional Growth (Tillväxtverket) and The Swedish Governmental Agency for Innovation Systems (Vinnova) (Ligenzowska, 2016).

The region of Gothenburg has 580,000 inhabitants and is the second largest city in Sweden. Gothenburg has a strong industry and business community which is wide-ranging (Gothenburg City, 2021). The city has two big universities, University of Gothenburg and the University of Chalmers (Ligenzowska, 2016). The region has three science parks (Sahlgrenska Science Park, Lindholmen Science Park and Johanneberg Science Park), which are owned by society, academia and businesses. These science parks create innovative environments and act like bridges between manufacturing and research. The region’s business life has a strong international presence with many large international players who own many of the companies in the city and there are also many regional actors who are leading within their field on a global level (Business Region Gothenburg, 2021).

Gothenburg benefits from the non-profit organisation “Business Region Gothenburg" which is a non-profit organisation owned by the city of Gothenburg. The organisation is responsible for the city’s business development with the ambition to contribute to more jobs in the region and therefore also sustainable growth in the region's business community. The aim is to work for an open collaborative environment where businesses, academia and the city are brought closer

together. Gothenburg also provides test beds for different sustainable and innovative solutions and the city is currently undergoing a transformation. By the year 2035, the city aims to provide new infrastructure that will benefit both businesses and private individuals (Gothenburg City, 2021).

Gothenburg also provides test beds for different sustainable and innovative solutions and the city is currently undergoing a transformation. By the year 2035, the city aims to provide new infrastructure that will benefit both businesses and private individuals (Gothenburg City, 2021). Gothenburg City also aims to become a green city in the future (Gothenburg City, 2021). The Gothenburg Green City Zone is an initiative from the City of Gothenburg through the Business Region Gothenburg, RISE Research Institutes of Sweden and Volvo Cars. Institutions, universities and many other actors are also involved with the project. The initiative is to create a zone where new technologies in vehicles and infrastructure are being tested. The goal with this initiative is to create a climate-neutral transport system in the zone which is completely emission-free by 2030. The main motive for this initiative is to create new innovative solutions which will benefit the society, businesses and to create a more sustainable living (Business Region Gothenburg, 2021). Another collaboration between industry, research and society, is the ElectriCity project. ElectriCity is an initiative which aims to develop and test new innovative solutions for the future of electrified transport (Electric City Gothenburg, n.d).

Gothenburg has long been known for having an automotive heavy industry and it is of great importance to the Swedish economy (Vinnova, 2020). According to a report by Vinnova, Västra Götaland stands for more than 33 % of the total employment in the automotive industry in Sweden (Vinnova, 2017). One of the major reasons why the region of Västra Götaland became the automotive center of Sweden, was mainly that Volvo established its head office in the city of Gothenburg 1926 (Volvo Group, n.d., Business Region Gothenburg, n.d.). After this more and more automotive companies approached the region and today, there are many large subcontractors, manufacturers, and related companies that are established in Gothenburg, Trollhättan and Skövde. (Vinnova, 2018). Volvo Group, Volvo Cars, SKF, Scania, Autoliv, CEVT, Semcon are a few of the main big players who all are established in the Gothenburg region (Business Region Gothenburg, 2018). Gothenburg has become a strong automotive cluster and many international organisations are making investments, strategic partnerships and collaborations with actors in Gothenburg. (Invest In Gothenburg, n.d.).

Apart from being an automotive cluster, Gothenburg also has a big life science cluster. The GoCo Health Innovation City in Gothenburg has a mission to provide support and boost organisations and individuals who work with finding the solutions to universal health challenges. The GoCo Health Innovation City is a science cluster has the goal to become the largest life science cluster in Sweden, (GoCo, n.d) and according to Invest In Gothenburg, the Health Innovation City might even strengthen the West Sweden region to that extent that it becomes a leading health innovation cluster from a global perspective (Invest in Gothenburg, 2020).

The region of Gothenburg can be considered as one of the world's leading regions within telematics, software development and mobile data design. The region has approximately

30.000 employees within the areas of technology and IT (Invest In Gothenburg, n.d). According to Chalmers University, a strong wireless connectivity will be the enabler for innovative applications and technologies which will create an intelligent society (Chalmers University, n.d). Gothenburg also has a handful of telecom companies who are established in the region. The telecom company Ericsson is one of them and could be considered as one of the world's leading many leading companies within communication and information technologies (Ericsson, n.d).

In order to develop a connected society from the value chain of Telematics, many different players in the regional industry need to be involved. Since all industries are entering a digital era where everything in the society will be more and more connected, this also means that businesses in the different parts of the value chain have to collaborate. Telematics can be considered the driving force of information and communication technologies (ICT) which can have several societal applications (European Commission, n.d). In order to facilitate the companies who work within the value chain of telematics in the Gothenburg region, a non-profit organisation called Telematics Valley was established in Gothenburg in 2001.

6.3 Telematics Valley

Telematics Valley is a non-profit organisation based in the Gothenburg region, which has been connecting telematics professionals since 2001 (Telematics Valley, n.d.). The association is fundamentally a networking and knowledge sharing forum for its member organisations, who are within the field of telematics and connected industries. The aim is to provide a platform and an opportunity for all relevant organisations and actors to come together in order to effectively network, share knowledge and exchange meaningful ideas. This is accomplished via hosting a vast array of planned activities and events like several lunch seminars, annual international conferences and targeted workshops (Telematics Valley, n.d.).

The prime purpose of the association today is to boost innovation and promote regional development by exploiting the region of Gothenburg as a premier telematics cluster. Telematics Valley believes this can be attained via attracting further competences into the region of Gothenburg, collaborating with other similar European actors and most importantly reinforcing collaboration and knowledge sharing. Being an open association, Telematics Valley has members from private as well as the public sector, enterprise start-ups and also small to medium enterprises (SMEs). Today, the organisation is funded through a membership model, where an annual membership fee is paid by all its members. The association has around 21 members currently (Telematics Valley, n.d.), who mainly fall within the automotive, telecommunications and information technology sector. The majority of the members are Gothenburg based, while the remaining others are established in other parts of Sweden.

7. Empirical Findings

This section will present the collected empirical findings. Seven main themes and nine sub-themes were derived from the collected data. These identified themes are listed and further described in this section.

For a more specific explanation regarding the codes, context and themes, see Appendix C. The coding scheme can be found in Appendix D.

Codes	Themes
Facilitator, integrator, consultant, innovator, catalyst, advisory role, connector	**The Role of Telematics Valley**
Network, contacts, meeting people, connections , conversations, interaction, relationships connecting dots, dialogues	**The Importance of Networks**
Internal Openness between members, activeness, engagement, positiveness, presence, energy, honesty, trust, mindset, passion	Openness and Trust Within Networks
Knowledge, knowledge exchange, discussions, experiences, solutions, information gaining/sharing, learning, ideas, innovation creation	**Knowledge and Knowledge Exchange**
Collaboration, partnerships, cooperation, finding solutions together, work jointly, occasions, partnerships, cross-industry collaboration.	**Collaboration Between Actors in Related Industries**
Rebranding, Marketing, 2.0, developing, modernizing, revamping.	**Revamping of Telematics Valley**
Mission, vision, common expectations and interests, business model.	Defining the Mission and Vision
Value offering , value proposition , value creation, win-win situations, offerings.	Value Offering
name change, telematics, connectivity, IoT, old fashioned	Name Change
Employee, recruitment	Recruitment of an Employee
Activities, arrangements, workshops, round table discussions, students, topics, events, content, involve academia, governmental support/funding opportunities, investments, infrastructure, city, state European Union, triple helix	**Potential activities, content and arrangements**
Sustainability, Green city zone	The Sustainability Perspective
Short term, Covid 19, Digital interaction, mental presence, physical/online, hybrid approach	Strategy and action during and post Covid 19
Regional, local, closeness, national approach, global approach, international,, globalization	**The Global vs. the Regional Approach**
Gothenburg, cluster, Lindholmen, proximity, uniqueness, competencies, industry specific knowledge	Gothenburg Region
Open, closed, excluding, including	Open vs. Closed Community

Table 2: '*Codes and themes derived from the collected data'* (Compiled by the authors)

7.1 The Perceived Role of Telematics Valley Today

This section describes the respondents' perspectives regarding the role of Telematics Valley today. There seems to be a shared view from the respondents that Telematics Valley has the role of being a *facilitator* for networks in the regional industry and that the organisation can enable knowledge sharing and connecting people and brains together.

"The core of Telematics Valley is information sharing and networking" - (Respondent 11)

"Telematics Valley is about the power of the networks, and the connections of brains and knowledge" - (Respondent 3)

Nine of the respondents agreed that the role of Telematics Valley is to both act as a platform where knowledge and information sharing happens and that Telematics Valley has the role of connecting people in the regional industry and providing the actors with a good network. Three respondents thought that the role was to facilitate knowledge sharing and three respondents talked about the organisations as a facilitator for networking in the industry.

"For me, Telematics Valley is a place where I can be inside of the context and it is a good network. What they offer is a good local network with people within the telematics area" - (Respondent 13)

"I believe in this local hub where you kind of connect between people. That has been kind of the heart of Telematics Valley" - (Respondent 1)

"Telematics Valley fills the function of being for professionals that are working with connectivity. The role Telematics Valley is to connect to networks of skill" - (Respondent 14)

Six respondents mentioned that through different constellations of actors in the industry, actors can learn from each other and come up with joint ideas and solutions.

"We meet and discuss, and I think that Telematics Valley for me, has always been a lot about discussions and building on each other's experiences" - (Respondent 11)

The most common perceived role of Telematics Valley is as stated above, to facilitate the network and the knowledge exchange between the actors in the industry. There also seems to be a common understanding that the role of Telematics Valley is not to generate projects for the member organisations, it is rather about providing a network platform where member organisations can share knowledge and experiences with each other.

"What I get from Telematics Valley is to understand our customers. It is not a platform that actually generates real projects, it is more of a sharing format" - (Respondent 11)

"I think Telematics Valley is more like an informal network where you meet and you don't have to go into projects together, it's more like you go to the last meetings you listen and you learn something and you talk to someone" - (Respondent 16)

Other respondents have agreed with the statements above, the importance lies in understanding the customers for the various member companies, it is not Telematics Valley's role to enable projects for the members. To have the access to this type of network that Telematics Valley provides, can in turn contribute to the understanding of other actors' challenges and opportunities. Respondents 12 and 2 also agree with this. The perceived role of Telematics Valley is instead to contribute with opportunities where organisations in the industry can create informal networks where you can learn from each other. The role of Telematics Valley lies in the importance of connecting actors in the industry and facilitating knowledge and experience exchange.

"I don't think Telematics Valley should run any projects, Telematics Valley should not have any costs or infrastructure. It should be more about connecting people and connecting brains" - (Respondent 12)

"From the perspective of having an organisation to find new customers, it's not the role of Telematics Valley since. It is about networking in the region, to kind of follow up what is going on with the trends in the region'' - (Respondent 2)

Further, respondents 11 and 15 believe that the role of Telematics Valley should be to act like a local networking forum and that if there is a need of generating actual projects for companies, there are other organisations that are more suitable for this type of need. Since there are other cluster initiatives that can support the companies with for example venture capital or generating projects.

"Maybe Telematics Valley is that local networking discussion forum where you can bring the local community together and then if you want to do bigger projects, you have DRIVE Sweden, Connect West, is all about venture capital and if you need start-ups for the projects then you have MobilityXlab" - (Respondent 11)

There is nobody that is really targeting the person working in the company that wants to achieve something with connectivity. That to me, is the role of Telematics Valley" - (Respondent 15)

However, one respondent perceives that Telematics Valley contributed to a generation of business opportunities. Respondent 7 mentioned that the organisation where he/she works at, achieved a new project together with another member organisation of Telematics valley, and that this project was facilitated through Telematics Valley.

"My organisation has one example where we had a cooperation agreement through the network of Telematics Valley where we are offering a product to customers together. This would not happen as easy without Telematics Valley" - (Respondent 7)

7.2 The Importance Of Networks

The networking aspect as stressed in the previous theme is a very critical part of Telematics Valley, the respondents have collectively outlined the benefits and importance of networks. Fifteen respondents have a shared view of the association mainly as a networking platform. They have stated how the networking and connectedness enabled through the events and activities organised by Telematics Valley aids to broaden their horizons. Moreover, how it has facilitated them to meet the right people and experts within their field. It was also observed that networking was deemed to be one of the most valued elements by the respondents.

''I think that the networking piece is the most important and it's the people that are involved that makes the difference for me'' - (Respondent 11)

''It's not only about going to lunches and the big events that are hosted by big organisations, you basically grow your network which I think is very good and important. It is a very useful network function'' - (Respondent 5)

The networking element is also viewed as the starting point of all the potential future collaborations and partnerships that can be enabled through the platform. The connectedness of expertise and qualified people within a network creates the perfect environment for potential future collaborations and alliances. Respondent 5 stressed on the fact that the telematics network is unique, entails strong expertise and thus creates an ecosystem of competence within the region, which in turn leads to generation of new ideas and innovation.

"I think Telematics Valley is more of a way to ensure that different companies actually do connect. Innovation creates an ecosystem and this is some kind of ecosystem. So by putting these people together in different ways, new ideas can be created" - (Respondent 5)

''You never know what type of opportunities opens up, a change of competences or new partnership or business opportunity. I think it is competence and networking that are focused on'' - (Respondent 9)

In addition, a majority of the interviewees highlighted the appeal of lunch seminars, planned after-works and relevant topics on how that assists in bringing people together. This has been observed to be generally appreciated by the current members and attendees of Telematics Valley. According to the collected data, it primarily gives the individuals time off from their busy work schedules and gives an opportunity to connect, discuss and brainstorm ideas and topics with like-minded people, in a professional yet informal way. Some respondents also stated how the only interaction happening for them with the association is through the planned lunch seminars and yearly events, and thus it holds importance for them. Respondent 11 reaffirms the importance of the lunch seminars and yearly events, since that is the only interchange their organisation has with Telematics Valley.

"My organisation is interacting with Telematics Valley mainly through the yearly events and the lunch seminars. That is pretty much the only place where the interaction is happening" - (Respondent 11)

"I joined the annual conferences that Telematic Valley arranges and I think that these conferences have always had very good quality with good energy and super interesting and relevant topics" - (Respondent 14)

7.2.1 Openness & Trust Within Networks

Another highlighted central facet within a network is the existence of *trust and openness* as its vital foundation. Its significance and impact has been highlighted by sixteen respondents, stating how having trust, openness and reliance in the environment - created and offered by Telematics Valley will play a critical role on how the organisation functions, how the members feel and how they potentially collaborate with one another in the future.

''I felt like that was really good network and a good thing about it which made me stay, was that people were very likeable so it was a very good atmosphere, the know-how was great, some of the strongest people within automotive in Sweden I would say'' - (Respondent 17)

''[...] however for this type of networking platform to function, the members need to be open'' - (Respondent 3)

Four Respondents mentioned that they think that the network that Telematics Valley provides, enables trust and openness amongst the members. Through having this type of network in the region, the members have informal ways of connecting with each other and through this type of relationships, trust can be created which in turn can lead to prosperity.

"Telematics Valley has a special role when it comes to openness and trust. There is trust to share and openness to discuss. I have made connections and friends within Telematics Valley that I can just call on a Friday afternoon and ask if we should do a project for this traffic system in Gothenburg. People know each other and trust each other" - (Respondent 1)

Furthermore, a positive energy and atmosphere is also viewed as the success factor for the organisation to function effectively. For many respondents, the likeability of the members, a positive ambience and the energy of the space defines their eagerness and willingness to be a part of this network. Respondent 12 emphasises on the need of a positive atmosphere and energy that boosts the development of innovative thinking and a collaborative environment. The engagement and the driving purpose of the people involved is also something that was touched upon by respondents 17 and 16, which are all essential factors for such a platform to entail.

''Atmosphere! it needs to be a nice place and it has to be a place people feel 'oh nice to be here again'. The right people are important, people know each other like first names on joke level, to get a very constructive and a very out of the box thinking environment'' - (Respondent 12)

''We have that nice atmosphere, because people are doing it for their passion about networking in transport, so the passion is the driver, not the money'' - (Respondent 16)

Therefore, to summarise this section it can be reiterated that the findings suggest the networking aspect to be a critical part for the effective functioning of Telematics Valley. Majority of the respondents have appraised the network obtained from the platform to be advantageous and of great value to them, even from a long term perspective. It is also highlighted that networking is only worthwhile and achievable when there is trust and openness amongst the connected people, which can in turn lead to successful collaboration and generation of new ideas.

7.3 Knowledge Exchange

This particular theme was observed through recurring statements throughout the conducted interviews regarding the importance of knowledge and knowledge sharing in Telematics Valley and in the industry of connectivity. Respondents 11 and 7 state that innovation and solutions are outcomes of knowledge gaining and sharing.

"The idea is that innovation is created when you discuss things from different perspectives. When you talk with people with different backgrounds and perspectives, then you can come up with ideas and solve problems jointly" - (Respondent 11)

"For innovation, you cannot sit in your office and know everything, you need to have inspiration from others as well. I think that is one key thing towards innovation, it gives you the possibility to be inspired by others. After you have met people on these events, you have fed your brain with good ideas" - (Respondent 7)

As stated in the empirical results from the section 'The role of Telematics Valley', several respondents mentioned that Telematics Valley enables knowledge sharing and the connection of brains. Further elaboration on this specific subject was made from the respondents and the observation made was that knowledge and knowledge exchange seems to be a crucial part for organisations innovation capacity and competitiveness. Seven respondents discussed the importance of taking advantage of each other's knowledge, since the members come from different types of organisations with different expertise.

"We learn and improve together to make sure that we can do things like autonomous driving, safety solutions with the cars etc. We also make sure that we support each other from since we all have different capabilities and expertise" - (Respondent 11)

"*It is beneficial to have those types of skilled and experienced people who have a lot of knowledge in their fields. It is a lot about gaining knowledge. Knowledge and experience of the people involved is very high so there are a lot of things to talk about"* - (Respondent 7)

Six respondents mentioned that other actors in Telematics Valley enhance certain information and knowledge, for example about the trends in the industry and specific technologies and solutions within the area of connectivity.

"*I felt that getting into the board and the members was really boosting the knowledge that I was lacking. It was quite easy to get information like what is the development of the cars, what are the trends?"* - (Respondent 17)

"We have a think tank approach. You have a wide set up of people, competitiveness, customer suppliers, friends, competitors, technical people, business development people in the same room" - (Respondent 12)

Even the respondents that were not members in Telematics Valley, discussed the importance of sharing knowledge between each other.

"As the members are working together, they can share knowledge. This make them stronger as individuals and it also strengthens the region" - (Respondent 10)

"They can bring to the table that they have a larger scale of partners that want to share knowledge within the industry and I think that this is good" - (Respondent 13)

7.4 Collaboration Between Actors in Related Industries

The conversation regarding the importance of collaboration between various actors in the telematics industry was recurring during the conducted interviews. This theme states the respondents' views on the importance of collaboration in related industries. It also touches upon what potential collaboration arenas Telematics Valley should be involved with. Eleven of the respondents mentioned that the network of Telematics Valley can enable collaboration and that the network provides the member organisations with possibilities to explore solutions and cooperation with other members.

"It encourages quite a lot of cooperation between companies and people who would not be able to do that if they did not have this type of network"- (Respondent 7)

"If we can understand each other, that will bring innovation and that is going to bring more cooperation and more things forward. If we can get together and work together, this will be a competitive advantage of the region and also for the companies" - (Respondent 11)

Five respondents discussed that collaboration is a success factor and that it is much better to collaborate than to compete.

"Cooperation is the key here. We have met other companies in Telematics Valley and talked about what we are doing and then we said; ok maybe we should explore more together? We are not competing, we are working in the same direction" - (Respondent 7)

"There are a lot of different organisations in Gothenburg. Since connected cars also broaden into the digital society, maybe it is good to start teaming up and that these types of organisations start to help each other and not try to compete. If they try to compete with each other, I mean Gothenburg is a very small city, nobody will succeed" - (Respondent 9)

Four respondents brought up that collaboration between actors in the same industry is not only beneficial for the actors themselves but also for the specific region and nation. Since Gothenburg can be considered as a smaller city compared to other large international cities, it means that organisations benefit from joining forces instead of doing everything alone, both on an individual, regional and national level.

"I think that Sweden is too small of a country to have competition between Stockholm and Gothenburg, we should collaborate better and I think that Stockholm should be a part of the Telematics Valley collaboration" - (Respondent 16)

"It's great to discuss topics to collaborate and share knowledge. If we find partners with whom we can have events with, we can connect together in the industry and create an attractive environment which makes people travel to actually come to these events. This will create attraction to the region" - (Respondent 13)

However, two respondents mentioned that there are of course risks that innovation will be picked up by someone else when you have open dialogues and push for collaborations.

"If Volvo and Scania somehow help each other, then you can always say that "this is not good", from a competitor point of view. From another perspective, it means that Scania and Volvo have the possibility to move faster than any other truck brands. So when you communicate between other companies and competitors of course there is a risk that innovation is taken up by someone else" - (Respondent 12)

An observation was made that a majority of the respondents had a positive attitude towards collaboration in the industry. By joining forces and for example having joint events and conferences with other similar organisations, could be a potential form of collaboration.

"An easy example is to collaborate and arrange conferences, like having one day each at a conference in the same location, that could be a strong collaboration, to use the different networks for invitations. organisations like MobilityXlab, DRIVE Sweden and Telematics Valley all have quite big mailing lists for invitations for events" - (Respondent 7)

"There are many collaboration arenas that Telematics Valley can work with in the future. I mean a very basic way is to help each other to promote each other's events. So let's join forces and split the job or the workload" - (Respondent 12)

As stated, all respondents were positive towards joining forces and they all agreed that collaboration is important in order to trigger innovation and competitiveness. Moreover, the respondents also had some thoughts regarding what potential collaboration arenas that Telematics Valley could potentially work with in the future that would be beneficial both for the development of the organisation itself and for the member companies. Nine respondents mentioned that they thought that Telematics Valley should collaborate with MobilityXlab, (a

collaboration hub that aims to develop new innovation within future mobility through interactions with six partner enterprises and start-ups).

"We should work closely with MobilityXlab, which has a startup community in the domain. If we could cross invite each other for things that would also improve the possibility for new companies to take a space and to move into the domains and support the bigger ones to actually create new business"- (Respondent 11)

"I think now as MobilityXlab is a great example of specific know-how that we could collaborate and that we have synergies with" - (Respondent 17)

One respondent had another viewpoint regarding collaboration with MobilityXlab.

"You can think 'why on earth would we want to have anything to do with MobilityXlab, they are focused on the startup scene, Telematics Valley is not'. But we acknowledge that the startup scene is part of the connectivity, and venture capital is also a part of that" - (Respondent 14)

Another perspective from one of the respondents regarding the potential collaboration with MobilityXlab was that it is hard to argue for what value it actually brings to MobilityXlab to collaborate with Telematics Valley. The respondent had a hard time understanding how that type of collaboration could create a win-win situation for both parties.

"Of course MobilityXlab can say to their start-ups: "go to Telematics Valley, it is a great network there". The thing is, what's the value for MobilityXlab? Why should they encourage their start-ups to go and talk to Telematics Valley that could be viewed as a competitor?" - (Respondent 13)

Four respondents mentioned that the organisation DRIVE Sweden (a strategic innovation program that drives the development towards sustainable mobility solutions) could be a good organisation for Telematics Valley to collaborate with.

"DRIVE Sweden could be something which is a little bit in the same domain that I think we could technically do more activities with" - (Respondent 5)

Respondent 8 who is not a member of Telematics Valley, stated that Telematics Valley needs to collaborate with organisations that incorporate similar activities and who have the same purpose. The respondent further states that there are lots of organisations that they need to collaborate and network with. One example of this type of organisation is Fordonskomponentsgruppen (an organisation for the Nordic subcontractors to the automotive industry).

"Fordonskomponentsgruppen could have a seminar with them. So that they can explain what they do in the automotive industry. It would be really interesting to hear more about what they are doing" - (Respondent 8)

One respondent mentioned that Telematics Valley could collaborate with Connect West (a non-profit organisation that matches entrepreneurs with skills and capital from the business world). Another respondent mentioned the organisation GREAT (organisation that works to develop the IT infrastructure in western Sweden). Two respondents mentioned that Lindholmen Science Park (an international business park with a focus on mobile internet, intelligent vehicles and transportation systems) would be a good collaboration partner. Further, two other respondents mentioned that Telematics Valley potentially could have collaboration with DRIVE Tel Aviv (an innovation hub focused on smart mobility that creates collaborations between Israeli start-ups and corporate partners).

"We have DRIVE in Tel Aviv which a lot of our companies or memberships are working with" - (Respondent 15)

Respondent 18 was highly positive regarding a potential collaboration between the two organisations.

"*I definitely can see benefits with DRIVE Tel Aviv and Telematics Valley working together. Maybe they can try to do some experiments together. Further, there are also interesting things with EU funding regarding these types of experiments so this is something that they together can try to challenge themselves with and understand how both parties can be a part of that"* - (Respondent 18)

One respondent mentioned that it could be interesting to look into cross-industry collaboration within the fields of Telematics. The respondent further says that Business Region Gothenburg (a non-profit organisation responsible for business development in Gothenburg) can facilitate how Telematics Valley and the member organisations can further establish in the region.

"Maybe there is some really interesting stuff going on in the health industry that you could kind of be inspired from in the automotive industry for instance. That type of cross industry collaboration. Also, Business Region Gothenburg could help Telematics Valley with understanding what place we have in this region and how we achieve more" - (Respondent 9)

Respondent 7 agrees that Telematics Valley could potentially collaborate with DRIVE Sweden and MobilityXlab, however the Respondent reasons that Telematics Valley should not be involved in a great number of collaboration partners.

"I think it is good with cooperation but I don't think Telematics Valley has to start looking for too many partners because that will also be too much" - (Respondent 7)

Respondent 10 who works at a European cluster organisation mentioned that an organisation like Telematics Valley should consider working with various actors within the industry.

"Collaboration is basically the idea of a cluster, just as our cluster organisation. It is about working on solutions together and to get the same amount of information and knowledge" - (Respondent 10)

Respondent 10 further stated that it could be beneficial for an Telematics Valley to collaborate with cluster organisations in other nations.

"It could be good to have collaboration between Telematics Valley and our cluster and perhaps even with other clusters as well. All societies are in need of telematics, so an exchange of knowledge would be interesting" - (Respondent 10)

Three of the Respondents talked about how Telematics Valley cannot be as established as for example DRIVE Sweden and Lindholmen Science Park since these are organisations that are governmentally funded.

"If you look at DRIVE Sweden it's also a Lindholmen Science Park initiative, these organisations are getting huge fundings from the Government. When DRIVE Sweden or AI Sweden does an event, either online or physical, it attracts thousands of people. But when Telematics Valley does events, we get 20 people, it's a big big difference!" - (Respondent 14)

However, three Respondents mentioned that Telematics Valley might need a bit more interaction with governmental bodies, traffic agencies and municipalities in order to get more understanding and help regarding systems of innovation and become a part of the automotive environment in Sweden.

"I think the city of Gothenburg should use Telematics Valley and actually I think the city should also be a part of Telematics Valley. Both the city and the transport authority are responsible for the road infrastructure for smart vehicles so having more interaction with these types of actors could be beneficial" - (Respondent 16)

Two Respondents said that if Telematics Valley does not choose to interact with these types of governmental authorities, at least they can seek collaboration with the organisations that have these types of interactions, since this will create larger events and attract more people and networks.

7.5 Revamping of Telematics Valley

This theme involves everything which essentially focuses on revamping Telematics Valley. This is divided into the sub themes of: *mission and vision, value offering, proposal for name change for the organisation and potential recruitment of an employee.*

7.5.1 Defining The Mission & Vision

Nine respondents have highlighted the importance of setting a clear mission and vision for the organisation. It is addressed that currently there is ambiguity in terms of a clear vision and a purpose for what Telematics Valley stands for and what it essentially wants to achieve in the future.

"I started to ask questions about the purpose and the reason to exist and the profile, the target groups etc. Looks like we have kind of a scattered view of what Telematics Valley is or should be. I would say we have a bit of different ambitions on the table" - (Respondent 15)

"I think that it's important that Telematics Valley should be clear about the role that they want, it's important to be clear" - (Respondent 16)

Also, as highlighted by the respondents there needs to be a clarity on what value the platform provides towards its members. Respondent 12 questioned whether a sustainable membership base and future expansion is a primary agenda for Telematics Valley. If not, then what entirely is the purpose that it aims to achieve in the future needs to be specified. According to the interviewees these are the questions that have room to be clarified and stated precisely in a well formulated mission and vision statement of the organisation, stating the purpose of its existence and the value it creates.

"If we just find a way to fill that hole, that was actually filled a few years ago, it would be good. What's the reason? What's the mission, what's in it for the members? Do they want to increase their membership base?" - (Respondent 12)

"Telematics Valley needs to find the offered value creation since they want to take the role of connecting the different links between the organisations in the industry. I think that it's so important that you define the value that you want to achieve and why, and then you find the means in the organisation to do that" - (Respondent 13)

There seems to be unanimous agreement on the perspective that the mission and vision of the platform needs to be explicitly stated for better understanding of their future ambition and role. Moreover, the question of global and the regional approach was also addressed, respondent 15 and 1 stated that it needs to be clarified in the specific mission of the organisation whether it wants to adopt a more local or international approach. It is according to the interviewees one of the main dilemmas that is under discussion for Telematics Valley.

"It could be like an evolution where we say that in 2021 - we reformulate or restate the mission, we do that for like a focus in Sweden and then when we have found this common ground, we then take another decision like a milestone if we are ready to expand it internationally or not" - (Respondent 15)

"I have been part of many 'soul-searching' in Telematics, like should we change name, should we be global, should we be digital, should we be local, should we communicate in English, Swedish etc" - (Respondent 1)

7.5.2 Value Offering

Majority of the respondents have attributed the greatest benefit in being part of a specialised network, which thus drives knowledge and sharing of ideas, which in turn leads to innovation.

Respondents 11, 17 and 3 are just a few examples of how the respondents have attached great importance and value to be a part of a network that gives them access to like-minded professionals in the field.

''The biggest value is the networking to trigger cooperation and to drive innovation and new ideas in the domain. Sharing insights, and moving ourselves forward, giving us the competitive edge towards other places'' - (Respondent 11)

"The immediate reward we got was knowledge. So I think that knowledge is super important because knowledge and the concentration of knowledge in such a small group is quite unique! - (Respondent 17)

"What you pay for is that you are a part of a network that is working in a space where there is a lot of knowledge. That is what you pay for. If this would have been free of charge, I don't think you can sustain a platform like this" - (Respondent 3)

In contrast to other views, respondent 6 states that the region gets the most value from an organisation like this. The region is thus able to reap the benefits and the prestige of having a unique cluster of competencies and be able to market itself. Additionally, a cluster organisation like Telematics Valley further facilitates and helps in promotion and getting traction to the region.

''I mean, it is the region that really gets the most value from Telematics Valley. They are the ones that really package like Telematics Valley and profile it out to other regions. To have this cluster of competencies that work with it and I think that it is a large argument for the region to attract people'' - (Respondent 6)

Also, it was mentioned that organisations are able to interact with their respective customer groups through the enabled networking at Telematics Valley. For some organisations this is one of the main values that drives them to the association and keeps them active since they are better able to understand the needs and wants of their customers and remain connected to them.

7.5.3 Name Change

There has been a general concurrence from the respondents' side that the term 'telematics' is rather old and not used in the industry anymore. Six respondents have claimed that they are discussing this area with the board and suggest a change of name for the association. This is to lift it up according to the current times and keep it more relevant and up to date. *Connectivity, mobility* and *IoT* are some of the current stated terms which are most used in the industry today. The term telematics is not commonly used these days and this is something that has been repeatedly pointed out by interviewees and there is a desire to address this, however it is still in the discussion phase.

"I think that Telematics Valley has been under discussion whether it is a good name or not, that is the next thing. I don't know where it is coming from, I think that telematics was the first word that we talked about when it comes to the actual link to the car'' - (Respondent 11)

"Mobility is broader than telematics so that's why I would go for a suggestion to maybe switch name to Mobility Valley I think it could be an opportunity if we make a fresh start or like a 2.0'' - (Respondent 16)

"I would say that telematics is a term that we no longer use in our organisation since it's kind of old and we like to be current in trends etc, so we use IoT and other words… you have different names for it" - (Respondent 17)

Although there is a general consensus that has been noticed regarding this topic, there are some respondents who have also shown their concern regarding the output change of name will bring about. Respondent 1 and 11 have pointed out that they are not certain if the name change will have any drastic positive effect on the association.

"We have been speaking about should we just change Telematics Valley to IoT and I have always been negative about it - no it won't solve anything" - (Respondent 1)

"Now we are talking much more about mobility and connected solutions, so maybe Mobility Valley would be better. But maybe it would not really make a difference" - (Respondent 11)

7.5.4 The Need To Redesign Telematics Valley

Eleven respondents highlighted the need for redesigning and modernizing Telematics Valley to make it more in sync with the current needs of the member organisations. There is a potential for restructuring that has been identified, respondent 11 suggests renewing the association and making it more suitable for the digital era. Respondent 9 suggests a change is needed to get more attendees and participants for the organised events and seminars. Thus proposing to formulate a strategy and future plan to make it more accessible and appealing for the participants.

''I think we need to lift Telematics Valley. I am more into the idea that we need to lift Telematics Valley into the new century, I think it was more of a 'coffee corner' thing before and I think we need to move more into the more digital era" - (Respondent 11)

"We have had very poor attendance at the seminars during the last years. Reason: is partly because the subjects have not been spot on. And the other is that we used to have our offices in Lindholmen and now that we are far, it has become a little more cumbersome to go and meet'' - (Respondent 9)

"We have been hesitating for a long time how we should do the 2.0. I think is due for Telematics Valley" - (Respondent 1)

Moreover, working on an active *marketing and communication plan* is an identified gap in the organisation today. There were a number of respondents who did not have any particular insights regarding Telematics Valley as an organisation or what their role is in the telematics cluster in Gothenburg. Respondent 8 was not even aware of the existence of Telematics Valley before the interview was conducted. Another respondent did not know if Telematics Valley currently is still

active. Furthermore, when one potential respondent was contacted for an interview (not included in the respondent list), the response was that this person did not have that much insight in Telematics Valley and as this person understands, there is not too much activity in the organisation.

"I didn't know we had the organisation Telematics Valley in Gothenburg. I do not know what they do or what they want to achieve" - (Respondent 8)

"Are they still active" - (Respondent 6)

Eight respondents proposed the need to build a proper marketing strategy to effectively reach out to the potential participants and relevant actors, who will be interested to participate and be a part of the organisation. The need for branding and adapting to the digitalised world today is a crucial next step, which can require a major revamping and rebranding exercise to take place.

''If we restart Telematics Valley with the right branding and marketing, structuring etc, we can put it on the map. It can become something bigger. We need to do branding, we need to do marketing and we need to surely plan online events'' - (Respondent 14)

'Telematics Valley is pretty unofficial. In that way there is quite little noise about Telematics Valley and we do not get into everyone's inbox and we are not necessary for people to think about or to relate to, that's my feeling at least' - (Respondent 1)

'We need to modernize, we need to go through a branding exercise and then we need to go through a marketing campaign exercise' - (Respondent 15)

Respondent 8 stated that their organisation being in the automotive industry in Gothenburg is unaware of Telematics Valley and would be really interested to know more about them.

"I am surprised that we don't know about them, actually. I don't know how to put that in words but they lack marketing skills" - (Respondent 8)

7.5.5 Recruitment Of An Employee

Respondents have shared similar views with regards to hiring an employee dedicated to working for Telematics Valley, who can be actively involved in driving the organisation forward. It was observed through the insights shared by respondents that currently the association is lagging behind in terms of activities and driving of initiatives since the board members are responsible for it in their spare time, which according to them restricts the pace and growth for Telematics Valley today. Since the board members are fully occupied and have limited time and capacity to run the projects for Telematics Valley.

''It would definitely help having someone half time or full time''- (Respondent 7)

"It's a challenge because if there is no one as a full time employee creating value. It's the people doing it in their spare time. I think we need to be more realistic in what's possible and the members need to be active and contribute in creating events and seminars and connections'' - (Respondent 5)

"For instance DRIVE Sweden, always had the money and the possibilities to have full time employees and this has made a difference. I mean you look at the score, us not having a full time employee, helping to progress this, the results are obvious, everyone is doing better than us, so it might be something to it" - (Respondent 14)

Another important shared aspect is that the individuals within the association had previously leaned back when there was a full time employee working for Telematics Valley. Respondents 17 and 14 have shared the past experience of how that in the past had created dependency and a lack of passion and enthusiasm from the board member towards the planning of future activities and strategy.

"When there was an employee, a lot of people in the board leaned back"- (Respondent 17)

"I think that if we do it in the right way, it could work. I think what happened last time is that it created a lot of dependency on that one person. I assume that everyone else got a little bit lazy. So that's the flip side"- (Respondent 14)

There was also an indication towards the work that could be assigned to the recruited employee. Respondents 11 and 17 state that it would be more appropriate for the new employee to be working within the operational and administrative tasks. This can be done with the right support and guidance from the board - who will be more dedicated towards the direction, purpose and strategy for the organisation.

"The board should give support and direction rather than do a lot of operational work. It makes a lot of more sense to have a person working and dedicated to this" - (Respondent 17)

"I think it will be good to have someone who will be doing the planning, like an event manager. I don't know if that's a full time job. Or like a consultancy basis, it can be investigated and if we have room in the budget, it would definitely be worth it" - (Respondent 11)

"I think if we employ someone it should be somebody who isn't passionate about the business rather like a project lead or an administrator or something just doing like calling the calls and ordering the catering, shouldn't be the driver of the purpose because that's when people lean back" - (Respondent 17)

7.6 The Potential Future Strategy and Actions of Telematics Valley

As mentioned in the results from the perceived role of Telematics Valley, there has long been a discussion regarding what role the organisations should take. A majority of the respondents had viewpoints regarding what strategy Telematics Valley can develop and what activities they can

indulge in in order to contribute with more benefits for the member organisations. Eight respondents stated that a future strategy for Telematics Valley could be to include other organisations from different industries and two respondents mentioned that Telematics Valley should recruit more members since this provides more revenue.

"I think that Telematics Valley has always been like a small group, it is important to get in people from different industries, because that is the way that you make new projects happen" - (Respondent 11)

"I think that there is a very good use of Telematics Valley in gathering different slightly scattered companies and competences around Gothenburg" - (Respondent 17)

Respondent 1 had ideas about including more people from different departments of the member organisations.

"Perhaps Telematics Valley should engage much more with different departments within our members, for example IP and legal. What we need now is a different layer of interaction with our members" - (Respondent 1)

During the discussion about gaining more members in Telematics Valley, there were some different viewpoints of what type of members Telematics Valley should reach out to. Four members stated that Telematics Valley should not be a big organisation where everybody can become a member. Respondent 15 thought that it could be good that future members have to give an explanation why they want to join Telematics Valley, this could reduce the risk of having unmotivated and inactive members in the organisation.

"One proposal that we had from our team regarding communication, is that the members should present to the board why they want to become members of Telematics Valley. In this way, everyone can present their view and motivate their membership" - (Respondent 15)

Regarding the subject of bringing in new members to Telematics Valley, three Respondents mentioned that it would be good to get in new perspectives from persons other than existing and future members. This could be done through the involvement of younger persons and even students.

"Things are happening so fast, and we need to stay relevant. We need to bring in a younger dimension who has fresh ideas. Telematics Valley could be a bit of a channel for thesis works and bring up students into this space and set up matchmaking. We could make sure that we have a good thesis for them to address or we could have coaches and mentors available. Telematics Valley could also help Chalmers or other universities with relevant input, with what we see as the need or demand in the future and also have a good interaction with the academic perspective" - (Respondent 15)

"Telematics Valley needs young people and somebody who is more proficient in the business area, sustainability and so on. So I think that given that the board now consists of mid-aged people and unfortunately this is not a very diverse set of people" - (Respondent 16)

Respondent 12 agrees that it could be a good idea to include students in Telematics Valley, students can even be a part of arranging events and in turn, they can get a chance to be included in the events and get a specific number of 'tickets' to the events. Respondent 12 further says that it is not a good idea to focus the events of Telematics Valley on only students, since this can decrease the participation of the actual member companies.

"We tell the students that they can get 30% attention of our event if they take care of the administration, but we need to steer it. But if you fill the room with too many students just to get more people into the room, the persons that are members in Telematics Valley will feel like "Why am I here today, I need to go back to work" - (Respondent 12)

Furthermore, four Respondents thought that Telematics Valley should start activities like education and training for the member companies. This type of education could be about subjects that concern the industry such as for example technologies and trends.

"Telematics Valley has to put things together to support the companies and try to profile them and educate them in subjects like service-focus, business models, artificial intelligence and cloud computing. Basically the things that are the leading needs to support the industry moving forward" - (Respondent 6)

The survey that was conducted by a couple of members in the board, showed that members are interested in getting training and education from Telematics Valley.

"One of the things that came up in that survey was education and courses, and I think that this is a good idea. I think in general that we lack a series of events that are attractive enough for people to prioritise them" - (Respondent 14)

Regarding the activities that Telematics Valley already is doing, eleven of the Respondents had a positive attitude towards the lunch seminars that used to be arranged before Covid 19.

"Lunch seminars are a good way to connect. People will start buzzing and connecting, sharing ideas, information and getting to know each other" - (Respondent 1)

"I think the lunch seminars are always quite valuable and they are usually pretty well attended. It doesn't cost much and members need to set aside 1 hour for lunch anyways"
- (Respondent 6)

Four Respondents thought that round-table discussions should have a bigger part in Telematics Valley. One Respondent stated that what is missing during the Telematics Valley events, is a follow-up on the specific topics that were discussed.

"They should have more round the table dialogues where they invite a few people from the companies to talk about a topic. Like a panel with 5-10 people that sit and discuss with a moderator, and maybe even have an audience" - (Respondent 11)

" I can miss a follow up, having a more formal way of saying: if you want to elaborate and discuss more about this, we will have a workshop about this topic, with somebody that is arranging it. This could deepen the relationship with Telematics Valley and also to get more out of the information and the know-how" - (Respondent 17)

One respondent mentioned that these types of follow-ups were something that Telematics Valley used to do during 2006-2007. But unfortunately there were not enough people that were interested in actually attending these deep-dive sessions/workshops. Another respondent further stated that it could be good to bring this up again in another way. Regarding the specific topics that the respondents would like to see more of during the seminars and events, differ. However, there was a consensus that the topics should be interesting and up to date to what the member companies are currently facing in the industry today.

"They should make sure that the topics are interesting. What could be interesting, that depends of course on how much it is in line with what we focus on or not" - (Respondent 9)

Further ideas of what Telematics Valley can provide to the members is to bring in more inspirational speakers and to give perspectives from different types of industries. Six Respondents wanted to have more subjects regarding innovation and future technologies. Six of the Respondents mentioned that Telematics Valley needs to provide more valuable activities and services for the member companies since an annual meeting and sporadic seminars are something that many other similar organisations do.

"It might be a little bit provocative to say that we are not leveraging enough value by providing seminars on a quarterly basis and having one annual conference, but the thing is that we don't actually do anything spectacular, it's not really leveraging the group of people that we have access to and we could be doing more" - (Respondent 14)

Respondent 6 who used to be a part of Telematics Valley said that during the time this respondent was active, the Telematics Conference was one of the forefront conferences in the world of Telematics.

"We had the ministry of trade and industry who opened it up one year and one year, the CEO of Volvo Cars opened it up. It was very big, it was at Svenska Mässan. Back in those days, I think it created a lot of value" - (Respondent 6)

The respondents that are members of Telematics Valley, explained that each member organisation has one person that acts like an 'ambassador'. Two respondents thought that this type of set-up works well.

"It is very good to have Telematics Valley ambassadors to bring other people to the seminars who can speak about their businesses etc or other interesting fields" - (Respondent 7)

However, one respondent mentioned that the ambassadors probably can do more in order to reach out to more people that can attend events etc.

"Maybe we as ambassadors can help and do a better job in reaching out. I can do a better job regarding how we actually make sure that the different individuals at my organisation know that Telematics Valley exists and help out to market these types of seminars. It would be good to have a mechanism to get a little bit wider out" - (Respondent 11)

Two Respondents mentioned that there is a problem if that ambassador decides to leave the company, then Telematics Valley loses the connection with that specific company.

"Telematics Valley has very little interaction with each organisation that is a member, it's typically one person that is the ambassador for that members organisation of telematics valley. If that person leaves that company, we lose the whole organisation. We need contact points in each member and that could be something very practically addressed by the organisation" - (Respondent 1)

As stated in the empirical results regarding what role the Respondents think that Telematics Valley should play, a majority of all Respondents mentioned that they think Telematics Valley needs to step up and get more well-known and established.

"They need to be forward leaning and start to drive things forward"- (Respondent 15)

"I can see other organisations that are adaptive to digital expressions, becoming more adaptive to the needs of their users/customers. I do not see us in Telematics Valley doing that, and this is one of the things that I am pushing quite hard" - (Respondent 14)

Four respondents mentioned that telematics should start to engage in marketing activities and furthermore, three respondents said that it is important to do market research and perhaps do surveys to really understand what the members want from the organisation.

"Maybe there is a window opportunity to do even more marketing about Telematics Valley now during Covid"- (Respondent 3)

"I have not seen any information about Telematics Valley for a long time. So we will bring this up in the next meeting, some suggestions on how to do marketing and something you should definitely bring up in your work as well" - (Respondent 16)

7.6.1 Strategic Future Role of Telematics Valley

There were some respondents that had additional perspectives of what the role of Telematics Valley can take. Respondent 5 describes that the potential role of Telematics Valley can be to

act as an integrator and business consultant. Respondent 9 states that Telematics Valley could take on more of an advisory and inspirational role for the actors in the industry.

"The role of Telematics Valley could be as an integrator or business consultant that helps companies" - (Respondent 5).

"The role of Telematics Valley could be to take on more of an advisory role in certain areas. Like if you want to get help to facilitate different workshops etc. It could be good for the companies to have some type of a neutral player, a facilitator to arrange different workshops, seminars and to help out with that type of consulting or advisory" - (Respondent 9)

"Gothenburg does have a telematics cluster and there is definitely a cluster effect going on. You need someone that is out there and promoting this type of cluster, and I think that Telematics Valley is on the tipping point of boosting the right environment for this" - (Respondent 2)

Respondent 7 and 16 explains that Telematics Valley could take on a role as a catalyst in order to facilitate collaborative efforts within the industry.

"The role of Telematics Valley could be to be an innovator, but I think the key is to be a catalyst to strengthen the companies in the region by collaboration" - (Respondent 7)

"I think that Telematics valley could be a catalyst of keeping these innovative companies and also merge them into this network" - (Respondent 16)

Respondent 10, who gives a perspective from an international point of view, describes the potential role that Telematics Valley can take is to act like a middle hand who can provide the member organisations with information and help in different areas.

"The role of the clusters is to gather all information and communicate this to the government, so the government can react or adapt to what is happening in the industry. Telematics Valley could identify new subjects which will be interesting in the future and make them see the bigger picture. Telematics Valley could be a structure that will help companies who need the test facility get in contact with a company who has these test facilities. The role of Telematics Valley could be to help them to identify financing, like European funding. Maybe some visibility towards the city, towards the state or even the European Union" - (Respondent 10)

Another role description that Telematics Valley could take in the future was of a 'neutral advisor' when it comes to helping companies with the transformation that is ongoing in the industry. The role of a "thought leader" means that Telematics Valley could help companies with answering relevant questions regarding the industry.

"Telematics Valley could act as a neutral advisor to companies and help companies that are working with telematics to do the right things in the right order. In order to leverage the technology and help them with the transformation in the right way" - (Respondent 3)

"Telematics Valley could be like a thought leader in the area because we have a great member base and we have relevant people in the network so that could mean that we can make our voice heard. Perhaps not drive opinions right now, but if there are questions, many questions tend to be EU level for example, maybe Telematics Valley should be a part of answering those types of questions as a relevant partner" - (Respondent 3)

These statements are consistent with what several other respondents said regarding what role Telematics Valley should play in the regional cluster. There seems to be a pattern where several respondents are well familiar with the organisation, but they think that the role of Telematics Valley could be something more than it already is today. Fifteen of the Respondents thought that the role of Telematics Valley could develop to something greater.

"I think that Telematics Valley could be much more than it is today. I think that they have an opportunity to become stronger and become more attractive because they have all the opportunities that the regional provides and all companies are based here" - (Respondent 16)

"Telematics Valley is pretty unofficial, it is not a corporate innovation like Lindholmen Science park, they are not part of the establishment. In that way there is quite little noise about Telematics Valley and they do not get into everyone's inboxes and they are not necessary for people to think about or to relate to, that's my feeling at least" - (Respondent 1)

Two respondents who are in the steering board of Telematics Valley described that a survey was made in order to clarify how the different member organisations perceived the role and value of Telematics Valley. Both respondents stated that the response rate of this survey was low, and that the answers were scattered amongst the survey participants.

"We did a survey which did not receive a lot of answers, maybe 11. Most of them were board members. We can't do much analysis or conclusion of the answers, but it actually showed that we have kind of a scattered view of what Telematics Valley is / or should be. For some people it is a local and nice group in Gothenburg where you share experiences. For some people it is a variant of Silicon Valley with a flavour of telematics that could influence the telematics market" - (Respondent 15)

7.6.2 The Sustainability Perspective

Fourteen respondents mentioned that the area of sustainability should in some way be incorporated within Telematics Valley, either by arranging seminars regarding the subject or to lift how the efforts from the member organisations can contribute to a more sustainable society.

"I think that sustainability is a very important aspect. There are so many sustainability aspects around that it is a guiding star in all our connected transport. So that makes total sense to have the sustainability perspective in an organisation like Telematics Valley" - (Respondent 11)

"I think sustainability is an area that Telematics Valley needs to anchor themselves and to deep dive into how smart cities look like, what is the role of transportation in the urban environment and how can you do this in a sustainable way" - (Respondent 6)

The fourteen respondents that were positive towards including the sustainability perspective in Telematics Valley, had the ideas of using sustainability as a topic for discussion forums. In this way, the member companies could discuss and learn more how they further can add value to this area and help each other with expanding projects. Three respondents had a different view regarding incorporating the area of sustainability into Telematics Valley events.

"I would say everything we do should be sustainable rather than talk about sustainability. So if Telematics Valley creates an event around electrification of vehicles then we should also explain what kind of impact it would have on the carbon footprint etc. We put sustainability into the topics we don't specifically talk about. That's my view!" - (Respondent 5)

"I think to just put that focus and just have the focus around the main topics that are discussed. To include sustainability in what you do, no matter what. To show that you care about it and basically knowledge sharing around it" - (Respondent 13)

The opinion of Respondent 5 and 13 is that Telematics Valley should not base events on the topic sustainability, they should rather focus on other main topics that concern the member organisations and always have sustainability included in every topic.

One specific topic that concerns sustainability came up during ten of the interviews. This topic was regarding what Telematics Valley potentially could contribute to the Green City Zone in Gothenburg (a zone where new technology for vehicles and infrastructure are tested with the purpose of achieving a zone with completely emission-free transport). Seven of the Respondents were positive that Telematics Valley potentially could contribute something to this project. The main contribution that can be made according to these Respondents is the network that is already established.

"Telematics Valley can add something in the Green City Zone project. First of all it could be a good source for the different members to expose themselves but also impart innovation and development and so on. There might be members who have been involved before so there might be some learnings and best practices that could be shared" - (Respondent 3)

"What I see is that there are many of the members in Telematics Valley who could contribute to really good collaboration for the Green City Zone. The members in Telematics Valley have a natural network going on, and the persons that are responsible for this project might not have this type of network in Gothenburg" - (Respondent 1)

Respondent 16 thinks that it would be interesting for the members to learn more about what is going on in the Green City project since this could open up opportunities for the organisations.

"To be more involved in the Green City Zone would be fantastic I think. I don't know how but surely to inform the members in Telematics Valley to talk about what will happen in this project and what opportunities there are. That would be interesting to understand"
- (Respondent 16)

7.6.3 Strategy During and After Covid 19

Regarding the strategy Telematics Valley can take during the period of Covid 19, the respondents had scattered views. Telematics Valley has not been having any physical events since March (except from one smaller event during the autumn 2020). Seven respondents mentioned that Telematics Valley made an active choice to not transform the lunch seminars and the various events into a digital space, since the common understanding was that this was not going to generate any value to the members.

"Creating fully digital conferences - no! It takes too much energy compared to the value members get out of it and so many companies are trying to do it anyway" - (Respondent 12)

"We have had an active non-digital idea and we do not want to go in the competition with webinars where companies just blast out their whole information globally. There is so much competition for webinars space and interest. We have said that we are not going to try to do that and we don't really have the resources, the know-how or the ambition" - (Respondent 1)

When this study was conducted, it had been over one year since Telematics Valley made the decision to put all seminars and events on hold, until there was a chance to meet physically again. Thirteen of the Respondents mentioned that today, there are a various number of digital events, and that these events do not really generate the same networking benefits that physical events do. However, the benefits that these types of online events give, is that people from all over the world can take their time to join.

"Now during Covid, you have an enormous menu of online seminars which you can attend wherever in the world now. The tradition has been to meet in person and accept the geographical limitations. Today, there are both opportunities and challenges with the situation. We have a completely different reach with the way that we meet, but on the other hand, it is almost impossible to do networking online." - (Respondent 9)

"During Covid, we are interacting with our companies through digital events. It's difficult for people to concentrate on a full online webinar. When you meet in person, you have the chemistry, the vibe that makes the conversation flow better. People are missing the face to face interaction. I do not know how the situation is in Gothenburg, but if Telematics Valley can do a smaller physical event, they should do it"- (Respondent 18)

There seems to be a shared view that all of the Respondents think that it is time for Telematics Valley to take on some type of actions to keep the organisation going. Five respondents think Telematics Valley should arrange a physical event as soon as possible.

"Now I would say that it is all about getting back in people's minds during and after Covid. Create mental presence with people and organisations to not be forgotten… that is one important thing now in the short term" - (Respondent 1)

"As soon as the folkhälsomyndigheten says that it is fine to meet again, I think Telematics Valley should have a planned event and an invitation ready! And they will be the first organisation to open the gate to getting back to proper networking again" - (Respondent 2)

One respondent mentioned that now during Covid 19, Telematics Valley should at least be more active and present on for example LinkedIn and create discussion threads on some type of online platform. Further three respondents like respondent 3, agreed that Telematics Valley should be more active and create digital spaces for discussion now when it is not safe to meet in person. Two of the Respondents argued that online interaction can work if the participants can manage to create trust between each other. Respondent 3 sees that the situation we are in right now, can create opportunities for Telematics Valley to gain more members.

"I think they have a window opportunity to get new members during this period, because in general, executives and people in general have more time since they are not travelling. They are more available, even though it is just half an hour" - (Respondent 3)

Even though there are a majority of the respondents that believe that digital seminars and events are not the right strategy for Telematics Valley, there were four respondents that thought that this could be a good idea. These Respondents however also mentioned that this approach requires effort and resources.

"We need to launch a series of events that are not only physical. As long as we are dependent on events that are only physical, it is like Telematics Valley is not going to do anything until next year" - (Respondent 14)

"If we are more digital now, we need to be able to have those types of platforms, we need to think more about how we should network. how we make the different types of groups meet in better and more modern ways" - (Respondent 11)

"Online seminars are good in the sense that they can reach out much broader. They could do like interview sessions, interviewing their members on certain topics. It could be quite unpolished I guess, but still have good value. I guess it is a matter of being seened I know one company for instance, they run a 25 minute breakfast seminar every Tuesday. Of course that requires quite a bit of effort to do that but it gives a lot of attention" - (Respondent 9)

The conversations regarding a mix-approach, combining both physical and digital events were brought up by seven of the respondents. The respondents mentioned that in terms of the networking aspect, it might be necessary to meet face-to-face. However, Telematics Valley can facilitate the discussions and knowledge sharing through recordings and share these digitally.

"Telematics Valley can have events with 25 physical people in a big room and a very nice digital experience at the same time. So we need to choose the right tools for video and audio and mix it with a physical meeting. So turning it around and saying physical is where we drive the meetings but people can listen from their summer houses or one hour between their meetings. I think so hybrid meetings, that's what we should do during Covid"
- (Respondent 12)

"I am quite used to working with Teams now. I don't feel very limited, of course you lose a bit of interaction, but at the same time it is quite efficient. So, something to consider is to do a hybrid approach where we combine both physical and digital meetings"- (Respondent 15)

7.7 The Global vs. Regional Perspective

This theme mainly looks into whether Telematics Valley should have a regional or global approach. The identified sub themes within this are: Gothenburg region, open vs. closed community, regional vs. the local approach.

7.7.1 Gothenburg Region

Insights shared by the respondents reveal their shared views regarding the uniqueness of Gothenburg as an intensive cluster within the field of automotive and connectivity. Nine interviewees revealed their perspective of Gothenburg as having a special position and significance when it comes to strong competence and expertise within the automotive sector and connected services. According to them, it surely gives the region a distinct advantage and appeal worldwide. These respondents from Gothenburg and other international regions have collectively recognised the importance and special competence of the Gothenburg region, which can shape the future of the automotive industry and connected industries.

"There is a strong presence of people with industry expertise in the industry in the region. There are no other places in the world where the industry is so close and has this type of unique positioning. Gothenburg has the best opportunities of bringing the companies closer and is very well known in the transport industry.'' - (Respondent 16)

"Gothenburg is the frontrunner of automotive within AI, self-driving, security, safety in cars etc- and those things are captured within Telematics Valley in a very good way'' -
(Respondent 17)

''I also think that if you look at Gothenburg, there is a lot of competence within for example autonomous driving and electrification and connected services which is the future for the automotive industry'' - (Respondent 5)

The respondents are therefore sure of the cluster effect going on in the region and agree on the further exploitation of the potential of the region to make it even stronger. Respondent 12 shared the view of how Telematics Valley can further strengthen the region by taking down the barriers and facilitating in the knowledge flows, if the region gets stronger the nation gets the benefit from it as well.

''What does it mean for the region? It means that we take down barriers and information flows, between Swedish companies and German competitors. But again, if it makes the region stronger, the whole nation gets an advantage compared to the rest of the world and I think that is very important we need to dare to think like that a bit'' - (Respondent 12)

Several respondents thought that the role and networks that Telematics Valley has in the region of Gothenburg is unique and there are not many other similar organisations that offer the same benefits. Three respondents stated that there is no real direct copy of Telematics Valley and connectivity is still very hot.

"I don't think that there are a lot of similar associations like Telematics Valley around the world. There are a lot of conferences about connected services, but not many networks - (Respondent 3)

One of the Respondents mentioned that there are not many arenas like Telematics Valley, however there are many other ways to network within the industry.

"An organisation like Telematics Valle is very valuable, there are not so many arenas for that. There are also a lot of interesting companies in the region. Gothenburg has a kind of heavy focus on the automotive industry and from that perspective, the type of networking within the region is very valuable. There are many ways to network within the industry, Telematics Valley is one, but there are others as well" - (Respondent 2)

Respondent 6, which comes outside the region of Gothenburg, describes that there are several other organisations that are involved in the telematics industry today, and that the role of Telematics Valley could face challenges since there are many other companies that engage in the same thing today.

"I think that one of the issues that would face an organisation like Telematics Valley today, is that 20 years ago, the industry was not mainstream. Today the industry is mainstream. You have 100 companies that are fully engaged in this industry now". (Respondent 6)

7.7.2 Open vs. Closed Community

Outlook regarding Telematics Valley being closed as a community with a heavy regional focus has also been observed in the data. Four respondents have shared their perspective and concern on how and why it can be difficult to come in and fit into the community of Telematics Valley - if you are from an international background. Since the association is heavily focused on the regional professionals and actors within the field, it tends to form an informal and a close knitted group of individuals.

''It's a small community, they know each other very well there. So it is hard to come outside if you are only there once per year. You should be there perhaps 10 times per year in order to

really get into the community'' - (Respondent 4)

"I think the response has been so and so, it's very difficult to come into these types of communities by just being there once. But if you do it 2-3 times, then you start to notice and know people around you and this is when you can pick up the phone and start to connect with them'' - (Respondent 5)

On the other side, there are also views on Telematics Valley to continue being a closed community of individuals within the relevant fields. Respondent 15 confirms the view that the content shared and discussed within the community can be sensitive and exclusive and thus should not be open and accessible by anyone - suggesting closed memberships for the platform as a solution.

''I really think that we should safe-guard what we share and make this a closed community, everything should not be open. I really see that we have some sort of closed memberships where within that can have some really good content to share, exclusive content'' - (Respondent 15)

7.7.3 Regional Approach

According to the empirical findings, there is considerable discussion regarding whether the association needs to be exclusively regional or whether it should have a global approach. There are differences in opinion observed amongst the respondents, there is also a certain degree of ambiguity regarding the subject as well that have been noted. For instance, respondent 11 believes that there needs to be a wider outreach however also accepts that Telematics Valley has always been a strong local network with a regional approach. The respondent also indicates that there has been a struggle to reach a unanimous decision on this topic.

''Telematics Valley has always been a small, local thing. But it's needed that we start to think about a little bit wider outreach. We have been struggling with this discussion in the board, do we want to be global? How do we compete with all the other global discussion forums? Or is it actually a Gothenburg industry cooperating thing that is the most appropriate approach? If we are talking like it is a local networking thing for the local industry, then it should be in the local domain, in the local area or the region I mean'' - (Respondent 11)

Eight respondents share similar views on having a very local and regional approach. Their response is mainly derived from the question of what value going international will bring to the regional hub and the member organisations as a whole. Respondent 13 has also pointed out the purpose of the association being diluted in case it adopts a more global approach.

''I'm to the far right, which means very conservative in this case. Sure, I see the world is very global and I am following the global time schedule myself in my work, but as a global organisation I don't see why it could be us. So I am very much into Nordic/Regional approach" - (Respondent 12)

''An international approach is really not our scope. We believe in it as a local hub. We have had very little progress, use or kind of value found in international connected events in a way'' - (Respondent 1)

''I think it would be good for them to remain regional, because they would leverage on a regional network, people being local and making really good connections. If they become international, I have difficulty seeing the main purpose for it since I can see that the network can become diluted. I have seen this with other organisation, they go global and they have 150 partners and nobody really knows each other but everybody is a part of it'' - (Respondent 13)

7.7.4 Global Approach

There are eleven respondents who believe in the strong global presence for Telematics Valley. The reasons highlighted are mainly because the industry and the markets for automotive, connectivity and mobility are international and thus many believe that the members specifically will lose out if they are not connected with global actors and players within the field.

''My spontaneous thought is that if it is not looked at from a global perspective, you are going to lose out because nobody in this industry is going to survive if they only have a regional outlook'' - (Respondent 6)

It is reiterated by respondent 17 that this issue has been under spotlight and discussion in the annual meetings of Telematics Valley, stressing on the fact that the nature of the business is certainly global and thus having a focused regional outlook will not be beneficial. Respondents 3 and 10 also share the same perspective on the approach towards going international.

''We have discussed this many times, almost every annual meeting. I think that it would be good to be open to the global approach and I think that it is an absolute necessity since the nature of the business is truly global'' - (Respondent 17)

''I think that you can do a lot with a global presence. Globalization is something that Telematics Valley is missing. It could be a bit challenging if we start to go a bit local and everyone is working global, we are cutting ourselves of with this dimension'' - (Respondent 3)

''I don't really agree with just a regional approach because the market is not only in Gothenburg. if you stay only in your small region there is not a lot of perspectives I think especially for the companies because all of the players are now international, or at least the markets are international'' - (Respondent 10)

In addition, respondent 14 shared the view and vision to make Gothenburg as a connectivity hub for players and actors within the field, from all over the world. It was stated that Telematics Valley can assist in this and play a role to bring professionals within related fields to Gothenburg annually and according to the respondent this will truly benefit the region and put Sweden on the map. Similar view has been observed by respondent 16, who believes that regional strength

can be exploited further by inviting people from all around the world to visit the local hub for interesting exchange of ideas and knowledge.

“ Telematics Valley can create a platform for international professional connectivity people, give them a reason to come to Sweden once a year which is both good for Sweden and Gothenburg. Telematic Valley is the key to the evolution of Sweden, as a connected nation, but also for the Gothenburg cluster. My vision for Telematics Valley is that it should be the one event in Sweden that everyone around the world pins in their calendars every year. Sweden does not have an event like that so there is no reason for an international connectivity professional to come to Sweden” - (Respondent 14)

‘‘This is a way of positioning, but also to open up for the world. I agree that we do not need to be active with events abroad, it is good to have our base in Gothenburg. I think the strength is not only local, you can also invite people from other parts of the world because then you get an interesting mixture of knowledge’’ - (Respondent 16)

It was also highlighted by respondent 7 further that the ambition and inclination for the regional and the local perspective varies depending on the size of the member companies. With larger companies having a distinct preference than the small to mid-sized companies.

“I think the role of Telematics Valley is perceived differently from the smaller and the bigger member companies. Bigger companies want to expand Telematic Valley and do something big, go abroad and collaborate with a lot of other bigger organisations. For them, it is not that important to have a regional or national perspective. But for smaller companies like us, there is big value to having this as a more local network, but value for the big companies is maybe something else” - (Respondent 7)

8. Analysis

This section will present the analysis of the empirical data. In order to answer the research question regarding the 'crucial success factors' for Telematics Valley, the analysis is based on the highlighted success factors from the theoretical framework by Klofsten et al. (2015). The themes and sub-themes from the empirical results are thereafter divided into each factor, based on relevance. To answer the sub-research question regarding the actions Telematics Valley should undertake to enhance the regional growth and development, each success factor is analysed and based on the adapted theoretical framework of Berzina & Garanti (2013) and the prior literature within the area.

As stated, the derived themes and sub-themes from the empirical results were divided into the five success factors by Klofsten et al. (2015), based on relevance. This was done to better understand each factor and how it correlates with the collected empirical data. In order to answer the sub-research question, the collected data was analysed from the view of the adapted framework that aims to show how a cluster initiative's success factors can contribute towards regional growth and development.

Success Factors	Main themes & sub-themes corresponding with the success factors
Idea	Defining the mission & vision, Value offering
Driving Force & Commitment	Recruitment of an employee, Openness & Trust within networks
Critical Mass	The importance of networks, Open vs. closed community, Knowledge exchange
Activities	Potential activities, content and arrangements, The sustainability perspective Strategy and action during and post Covid 19, Collaboration between actors in related industries
Organisation	The Role of Telematics Valley, Revamping Telematics Valley, Name change, Gothenburg region, The regional vs. global approach.

Table 3: *'Main themes & sub-themes corresponding with the success factors'* (Compiled by the authors)

8.1 Idea

Defining The Mission & Vision

Klofsten et al. (2015) stress on the importance of a well-defined and visualised idea for a successful cluster initiative. This assists in the identification of the specific need that the cluster initiative fulfils. It also aids in the development of appropriate activities that ought to be planned for the members, since an important purpose of cluster initiatives is to facilitate activities for its members (Laur et al., 2012). It was observed that the majority of the respondents have stressed on the importance of a clear idea for the cluster initiative as well. This resulted in derivation of the theme regarding a well formulated mission and vision for Telematics Valley. This was noted to be a dominant theme amongst the interviewees which corresponds with one of the stated success factors for cluster initiatives by Klofsten et al. (2015).

The collected empirical data shows that currently Telematics Valley lacks having a clear purpose and vision for itself. Therefore for the organisation to move forward and thrive, it needs to have a clearly stated vision and mission statement. This will assist it in driving its activities and projects forward and also define the need that the organisation wants to fulfil for its member organisations and for the regional industry in general. It is crucial for a cluster initiative to identify the needs of the actors within the cluster and facilitate and support these needs, as highlighted by Sölvell et al. (2003). It will also further ensure that everyone within the board of the organisation works towards a defined purpose, which will help to enhance the efficiency of the organisation. According to Klofsten et al. (2015) several studies have stressed on the importance of a viable idea as a keystone for a cluster initiative's success. The fact that Telematics Valley has not yet specifically stated a strategic mission and vision for the organisation, leaves room for ambiguity on how the organisation wants to drive its processes and activities further. This was reflected in the expressed views of the respondents, that it needs to be the necessary first step for the organisation. A vision statement will determine the future state and the necessary strategic decisions that cluster initiatives need to take in the future. It will also communicate the purpose to the members of the organisation and other relevant stakeholders, influencing them to together achieve that purpose.

The authors interpret that there are many questions which need to be addressed and resolved by the board of the organisation. Telematics Valley has lately remained on a stagnant path and therefore to prepare the organisation for its future endeavours requires setting a specific goal that it wants to achieve and setting a vision and a purpose for its existence. Many facets were discussed with the respondents regarding the ambiguity of whether the aim for the cluster initiative is to expand internationally, whether it is to attract more members and whether the expansion needs to be diverse - attracting more start-ups and international organisations within the association. All of these distinct questions, according to the authors, are directly linked to a properly set aim and vision for the organisation and if that is well formulated then Telematics Valley can set off in a defined direction, leaving less ambiguity and question marks for the organisation. Therefore it can be argued that a clear vision and mission is an important action crucial success factor for Telematics Valley in order to become a successful cluster initiative. If

the cluster initiatives function effectively then it can lead to favourable conditions like establishment of new businesses and business growth, which are the key factors needed for creating a favourable environment for the development of a region (Berzina & Garanti, 2013; Stimson et al., 2006). Moreover, a viable and defined idea for the cluster initiative will attract more actors within the telematics and connectivity sector to the region. This is crucial since the role of cluster initiatives is to act as a bridge that connects different actors in the industry and facilitate them to share, communicate and collaborate. This in turn can create a strong cluster and Ketels (2003) argues that regional clusters act as essential driving forces for development in a region. Thus, boosting innovation and the overall cluster competitiveness, which in turn brings about regional growth (Howells, 2006; Berzina & Garanti, 2013).

Defining the Value Offering

Another aspect within having a 'clear idea' for Telematics Valley is for it to determine and clarify the value offering for its members. This element is not covered by the suggested framework by Klofsten et al. (2015), however, the collected empirical data greatly suggests an ambivalence amongst the respondents regarding the specific value and niche of Telematics Valley. A viable idea can be a success factor for a cluster initiative because it can then show how the cluster initiative generates benefits for the members and also further attract more members by offering them value and a sense of community (Klofsten et al., 2015). Therefore, having a clear value proposition and offering is essential for Telematics Valley. It will enable the organisation to connect with the right target audiences and gain suitable members and actors involved in the association. This is also highlighted by Klofsten et al. (2015) that a clear idea aids in the identification of the right target group and understanding the members specific needs.

It is evident through the empirical results that the members associate certain elements to be highly valuable for them. These elements broadly include: *stong network and connectedness, knowledge exchange, exposure to their customer groups etc*. Many respondents recognise these benefits as the key values that are derived and generated by Telematics Valley. The respondents expressed their views that being part of a specialised network enhances knowledge exchange and sharing of relevant ideas, which in turn leads to collaboration and innovation.

However, there is another perspective by the respondents which denotes that there exists a need for a formal value proposition and offering to be defined and identified. One of the respondents pointed out that having an identified value offering is essential to form future partnerships and to work with potential collaboration arenas in the future. The collaboration platforms need to recognise the exact value that Telematics Valley brings to the table and how it matches with their current offering. A potential collaboration arena for Telematics Valley has highlighted that in order to collaborate with Telematics Valley in the future, they need to understand what the value is that Telematics Valley offer, since that will assist them to understand the organisation's niche and make it easier to decipher if a future collaboration is desirable or feasible. Therefore, the current empirical results suggest a gap, which could be looked into further.

Hence, defining the *value offering* is another element within the factor 'Idea' that needs to be addressed by Telematics Valley to effectively function as a cluster initiative. The authors also deduce that framing of a value proposition could also assist the organisation to specifically carve down its unique value offering for its members. However, framing of the value proposition is a long process that perhaps Telematics Valley needs to invest time and energy into. The authors believe that a defined value offering and niche will enhance the chances of Telematics Valley to establish collaborative partnerships with relevant arenas and organisations within the region. This would thus bring about regional interaction, networking and innovation. Moreover, Fritsch (2008) also argues that the direct outcome of regional growth is larger market shares, and the indirect effect of it is increased innovation and productivity in the region. Porter (2003) and Puga (2009) also assert that productivity, competitiveness and innovation capacity can stimulate opportunities in the region. A viable idea and a well framed value offering, will thus stimulate the cluster initiative's performance and its innovation capacity which would eventually lead towards the cluster gaining more competitive advantages which could promote the region as a favourable environment for actors in the industry which could lead to regional growth (Berzina & Garanti, 2013).

8.2 Driving Force and Commitment

This factor is about the involvement of key individuals with the right motivation and enthusiasm who can facilitate the activities and networking for the cluster initiative. Klofsten et al. (2015) suggests that in the absence of committed and motivated individuals it is difficult for a cluster to successfully progress and grow. It is further stated that there needs to be the existence of a core group of individuals who are like driving actors and support the strategies and goals for the cluster.

Openness & Trust In A network

Klofsten et al. (2015) have asserted that for a cluster initiative to develop, it needs to have committed members and also have an environment of trust and openness among those involved. This has also been collectively addressed by the respondents, who perceive trust and openness to be important elements that are crucial for Telematics Valley to succeed. The empirical data suggests that respondents attach great value for the environment offered by Telematics Valley to reflect positivity and trustworthiness. Since it is a platform that connects various organisations and professionals, who share ideas and exclusive information, it is crucial for the trust factor to be present and the individuals to feel secure in sharing insights and information.

Majority of the respondents attribute positive energy and an open atmosphere to be the key factors for the success of Telematics Valley. It has been expressed that a positive ambience and energy leads to effective engagement which thus boosts collaboration and innovative thinking. It can also be argued that an open environment and trust within the organisation can be attained through involving individuals and members in the organisation who are truly driven and passionate about the purpose and the goals for Telematics Valley. This has also been confirmed through the respondents' views who think it is the non-profit purpose that acts as a catalyst and

creates the right energy for the organisation. Currently, it is solely the passion of the board members which is the driver for Telematics Valley, and this is an element which the respondents want to sustain. Moreover, it was also mentioned that trust and openness is what makes networking achievable and valuable and is what leads to successful generation of new ideas which is necessary to boost innovation and progress in the cluster.

Recruitment Of An Employee

Recruitment of an employee for Telematics Valley was a recurrent theme in the empirical data. The authors perceive it to sync with this factor, since its crux as highlighted by Klofsten et al. (2015) is to have key individuals who are dedicated to the cluster initiative and can actively work towards driving its activities forward. The respondents in general have conveyed that there could be a potential recruitment for an employee working for Telematics Valley, half time or full time. The employment could be on a set contract for a 6 or 12 month period. It was collectively expressed that what the organisation currently lacks is the presence of a driven individual who is wholly dedicated in facilitating its operations and the planning of different activities and events.

It was also observed through the shared insights that Telematics Valley is currently lagging behind and has remained on a stagnant path. This is because it is only the board members who are responsible for driving its processes forward in their free time. This directly impacts the pace and progress of various initiatives and activities for the organisation, since the board members have limited time and availability to run the projects and actively advance Telematics Valley. Therefore, many respondents are in the favour of recruiting an employee who can speed up the processes. In case there is enough funds and budget available for the recruitment, the respondents believe it could be the ideal scenario to have someone committed towards handling the administration for the association.

However, it was also found in the collected data that when Telematics Valley had employed a full time individual, the rest of the board members had leaned back and reclined a little. This not only created over-reliance on that one employee but it also created a lack of passion and motivation amongst the board members, which according to the respondents was not a positive outcome. In addition, it was also highlighted by the respondents that when a unanimous decision was made to not have a hired employee, that is when the energy and enthusiasm in the association was ignited again. This denotes that in order to keep the spark and the energy alive within the organisation, it is preferred that the board remains in control and in charge of the future strategy and plan of action. Klofsten et al. (2015) also highlight the importance of the presence of a core group for the cluster initiative, which allows for some independent action. It is also further stated that the core individuals should work to channel and take advantage of the energy and the passion of the core group so that the future goals of the cluster can be fulfilled.
Furthermore, it was stated by the respondents that it would be appropriate for the hired employee to specifically work within the operational and administrative tasks for Telematics Valley. The respondents believe that the board members should still remain responsible for setting the strategy, purpose and strategic direction for the organisation. However, they should not be involved in the operational work and just provide necessary guidance and support to the

employee - who can carry out the administrative tasks. Klofsten et al. (2015) also pointed out the importance of finding the right balance between freedom of action for the core individuals and some degree of control. By still being involved as the key decision makers for Telematics Valley, the core group of individuals will not lose focus or enthusiasm and as they will have the power and will be key driving factors for Telematics Valley. Klofsten et al. (2015) also state that much of a firm's ability or inability can be analysed by evaluating its core group and the driving actors.

The authors are in agreement with the respondents' views that if Telematics Valley aims to achieve progress, then it requires an employee to run its operations. This employment could be for a shorter period of time to support Telematics Valley with the necessary development of the organisation needed. It is surely essential for Telematics Valley to remain competent in the regional landscape and at par with other organisations. Since as mentioned by the respondents, other organisations like DRIVE Sweden are doing much better and progressing fast. Since Klofsten et al. (2015) states that the employee and the core group need to work unitedly for smooth cluster initiative management and this is how the cluster overall can become competitive and flourish as well. The authors therefore believe that the key individuals who are dedicated to the cluster initiative can actively work towards driving its activities forward and thus enhancing cluster competitiveness in the region.

8.3 Critical Mass

Klofsten et al. (2015) state that in order for a cluster initiative to flourish there needs to be involvement of the members. The membership size should be large enough to make up critical mass, both with regards to the amount and also diversity. Klofsten et al. (2015) also assert that committed members are crucial for cluster development. This essentially denotes that Telematics Valley needs the involvement of a decent and adequate number of members, who are also diverse, for it to function effectively. It is also highlighted that the number of members, valuable exchange and networking aspects are all vital factors that reinforce the cluster initiative.

The Importance Of Networks

The members involved in Telematics Valley make up a specialised network, connecting professionals within the field for valuable exchange of ideas. It has been repeatedly expressed by the respondents that the network function is immensely valuable for them. It was stressed that the member organisations and the individuals involved in the association constitute a unique network of competences and expertise, bringing together all the experts within the field of telematics and connectivity together. Therefore, the more Telematics Valley will expand and attract more members, the stronger the network aspect will be.

Inkinen & Suorsa (2010) have highlighted the role of cluster initiatives is to act like a networking organisation. Many respondents' views correspond to this, as they have underlined that the network element to be the most valuable. Since it has enabled them to build contacts, where people with relevant expertise and skills work together on solving problems and build alliances. Furthermore, some of the respondents have also claimed that the Telematics Valley network has

enabled them to build informal connections within the industry, where they can connect anytime on a short notice to work together on ideas and problems. The authors thus believe that increasing the membership base for Telematics Valley will further enhance and strengthen the network ties, connecting and bringing more professionals together through the platform. However, Klofsten et al. (2015) argue that increasing the membership size can on one side increase the intensity and ability of what the cluster initiative does but it can also dilute the connection and contact with each member, limiting the member exchange. Therefore the authors want to highlight the importance of only involving relevant members that can positively contribute to the organisation, and not aim for just increasing the membership base, solely to gain a larger mass in the organisation.

The network function is at the core of all benefits that the cluster initiative offers. The cluster needs valuable interactions and exchange between relevant actors to take place, for it to become competitive. This creates a favourable environment in the region, enhances business opportunities, where people in the industry have strong ties with one another and can potentially collaborate and work together, leading towards innovation and regional development (Chapman, 2009; Berzina & Garanti, 2013; Porter, 2000).

Open Vs. Closed Community

Beyond a certain number of members, the type of members involved also holds importance. Klofsten et al. (2015) have highlighted that the lack of diversity will limit the opportunities for valuable exchange and therefore it is essential to have diverse members in the cluster initiative. Diversity is highly important for a cluster initiative to function effectively and consequently for a cluster to grow and , requiring a constant influx of people from varying backgrounds, knowledge and experiences (Klofsten et al., 2015).

Currently, Telematics Valley is considered to be a closed community of people with a regional focus. Some respondents express that it is therefore difficult to come and gel in the organisation, if you are from an international background or if you are new to the association. The shared perspective of the respondents suggests that there is a lack of diversity in terms of international and non-regional players and members in the community, since the focus is densely on regional professionals and experts within the field, which tends to form an informal closed group of members. However, the question of whether Telematics Valley should be an open or closed community varies, where some respondents expressed their desire to see more individuals with diverse and international backgrounds. While some argued for a closed community, implying that the content and knowledge discussed and shared is sensitive and therefore should not be open and available for all. The author believes that Telematics Valley could pursue the action of keeping a closed community where trust is created within the membership base. However, it seems to be of value that Telematics Valley should open up more for external actors in terms of events since a diverse variety of actors invigorates more valuable exchange to occur through which is crucial for achieving success in a cluster.

Many respondents also mentioned that there is a need for Telematics Valley to include more members, also more diverse members, both from actors in the industry and also from other connected industries. There were also discussions about including more people from different departments (for example legal and IP) from the member organisations. There was also discussion about the type of members Telematics Valley should reach out to and how to make sure that these members actually can contribute to the organisation. There seemed to be a shared view that Telematics Valley should not be an organisation which has the aim of just recruiting new members for the sake of it. One example of how to avoid those organisations becoming members without the right motivation was to ask future members to motivate why they want to be members, and then a decision can be made from the board.

The respondents have specifically mentioned involving academia and engaging more students and a younger dimension in the organisation. By doing this, Telematics Valley could diversify the influx of knowledge and experiences into the organisation and can exploit a more fresh and modern approach. The input from academia, for example Chalmers University and Gothenburg University in the region, can enable them to understand future needs and demands for the association. This also corresponds with the Triple Helix model, which implies that regional development occurs through the interaction and close collaboration of three key actors: *firms, universities and society* (Klofsten et al., 2015). Thus, it can be argued that having 'critical mass' is essential, since the membership size and diversity reinforces the cluster initiative, strengthening and expanding the network. Klofsten et al. (2015) state that variety in a network is crucial for achieving success in a cluster. Therefore, a strong network invigorates more valuable exchange to occur through which the cluster can achieve competitive advantages, which in turn creates development in the region (Berzina & Garanti, 2013).

Knowledge Exchange

The authors consider knowledge exchange to sync well with the factor 'critical mass', because many respondents have shared that the result of interacting and networking with people from diverse backgrounds and perspectives, leads to exchange of great ideas and knowledge, which thus boosts innovation. According to the respondents, inspiration and sharing of ideas is what essentially leads to an organisation's innovation capacity and competitiveness. There have been discussions about how the association has enabled the members to learn and gain more knowledge about certain innovative technologies and innovations within the area of connectivity. Learning about new trends, disruptive technologies, the market and the industry in general, are all results of knowledge exchange that is enabled through the specialised network of Telematics Valley. The authors are also in agreement that the primary outcome of networking and having a community of professionals is the ability to exploit each other's knowledge and gain more insights from one another. This exchange between members is realizable since the members of Telematics Valley belong to different types of organisations with different expertise. Through the interaction between firms and organisations, different types of information and knowledge can be gained and exchanged, as also highlighted by Edquist (1997). The critical mass of cluster initiatives ensures that there is valuable exchange and interaction taking place amongst the members and they are able to solve problems jointly. Krugman (1991) stated that clusters

facilitate the process of organisation's knowledge and sharing and gaining, which could improve the competitiveness of the region (Lin et al., 2006). This is one of the reasons why clusters are seen as the drivers of regional innovation.

The role of a cluster initiative is to act as a bridge between different actors. It connects them and acts as a facilitator to spread capability, knowledge and to fill in the gaps needed (De Silva et al. 2017; Smedlund, 2006; Howells, 2006). This corresponds with the respondents' views who see Telematics Valley as their crucial source of gaining knowledge through the offered network and connections within the industry. The exchange of knowledge and ideas boosts the innovation capacity of the involved organisations which in turn creates a favourable environment for both the members and the other actors involved.

8.4 Activities

Kettles & Memedovic (2008) and Laur et al. (2012) argue that cluster initiatives should facilitate and develop services and activities for the actors in the cluster. This corresponds to what Klofsten et al. (2015) state in the theoretical framework, that there should be planned activities that make it beneficial to be a part of the cluster initiative for the members.

The element regarding the activities of networks corresponds with what both the respondents and the literature stated. Klofsten et al. (2015) argue that the activities of promoting networking and the creation of relationships is crucial for the cluster initiative. Porter (2000) and a majority of the authors who are specialised in cluster literature, argue that the networks and the 'nodes' between the different actors in the cluster are considered to have a strong positive impact on both the firm level and on the regional level. This in turn creates competitiveness in the cluster (Berzina & Garanti, 2013). Since the majority of the respondents perceived the role of Telematics Valley as a facilitator for networks and connectedness in the industry, this success factor seems to be the foundation of the organisation. However, even though the respondents are pleased with the networking activities such as lunch seminars that Telematics Valley arranges, the respondents had additional thoughts on planned activities that Telematics Valley could indulge in order to make the cluster initiative more successful.

Another element that Klofsten et al. (2015) describes as important in the factor 'activities' is the presence of entrepreneurs, who are also labelled as 'champions'. These entrepreneurs impact and act as mentors and role models for young entrepreneurs in the region. However, in the empirical data, there were no discussions regarding the presence of entrepreneurs. Neither was this mentioned in the literature review of this study. Since Klofsten et al. (2015) stress on the importance of having an entrepreneurial spirit and culture in the cluster initiative and also state that entrepreneurial individuals need to participate and be involved in the cluster initiative. Therefore, the entrepreneurial aspect has the potential to be further looked into and investigated.

Potential activities, content and arrangements

Klofsten et al. (2015) also mention that there are several elements in the success factor

‘activities’, that could enhance the attractiveness of the activities. One of them is how well the activities are adapted to the firm and its degree of maturity. The observation was made from the empirical data that there has been poor attendance during the last Telematics Valley events. The reason for this, according to respondents, is that the topics discussed during these events could be more suitable for the specific member organisations. The authors therefore observe that there seems to be a need for activities in Telematics Valley that are more appealing and valuable for the members.

The specific topics that the respondents would like to see more of during the seminars and events differ. However, there was a consensus that the topics should be interesting and up to date and in accordance with what the member companies are currently facing in the industry. Many of the respondents wanted to have more subjects regarding innovation and future technologies. A sub-theme regarding the activities including the aspect of sustainability was derived from the empirical results. Fourteen respondents stated that sustainability should somehow be incorporated within Telematics Valleys activities. Some respondents believed that sustainability should not be separately focused on in the events but should naturally be a part of what they do and focus on. However, there were also a few respondents who see value in sustainability topics to be focused on as separate subjects during the events and seminars. The authors believe that it is more of value to incorporate the area of sustainability in all main subjects of the seminars, rather than focusing on having sustainability as a main subject on events.

Round-table discussions was another activity that the respondents suggested. This type of activity could also involve audience participation. One respondent expressed the need of having an activity of follow-ups on certain topics that are discussed in the seminars and events. The ideas of what activities Telematics Valley can provide the members with, was to bring in more inspirational speakers and to give perspectives from different types of industries. As mentioned in the analysis section ‘critical mass’, some respondents mentioned the activities of involving students and a youngster dimension in the organisation. Activities that could potentially be done from this perspective, is to involve the students in the events and even let them be responsible for the administrative parts. This could also potentially increase the participation of the actual member companies.

The authors believe that it is of great value for Telematics Valley to listen to their members' needs in terms of the subjects that should be involved in the offered activities. Since Klofsten et al. (2005) argues that this could enhance the attractiveness of the activities.

Training and Education

One of the key activities that Klofsten et al. (2015) distinguished was training and education programmes in the cluster initiative. Currently Telematics Valley does not offer any types of training or education. However, four respondents expressed the need and willingness to participate in educational and training programs. One of these respondents mentioned that Telematics Valley could support the companies and educate them in subjects like service-focus, business models, artificial intelligence (AI) and cloud computing, since subjects like these are important for the industry to further develop.

According to Tödtling & Tripp (2005) and Cook et al. (2007), the RIS approach requires the regional authorities to provide infrastructure for education and R&D, for example science parks and innovation centres. Cook et al. (2007) states that the various key players within a RIS can be complemented by intermediaries that connect the 'links' between the firms within the region. Since Telematics Valley could be considered as an intermediary, the question is if it is up to the cluster initiative to arrange training and education activities or if this is something that should be offered through regional authorities and institutions. Telematics Valley is currently a smaller non-profit organisation which does not have the resources or finance to support their members with advanced educational programmes, the authors therefore suggest that Telematics Valley can act to connect the links between members and actors who offer training and educational programmes, for example test facilities.

Moreover, Foster et al. (2015) argue that cluster initiatives should have specific knowledge, competences and skills within their area of field. This is something that the authors assume that all members in Telematics Valley have since they to a great extent are involved in the industry. This could potentially mean that the actors in the cluster initiative could arrange their own educational activities within their specific area of expertise and share this with the other members.

Activities based on the skills and services available in the region

The main idea of a cluster is to have geographical closeness and that all actors in the cluster benefit from each other. The cluster initiative should work to facilitate the interactions between these various actors and this could also mean to arrange activities that are beneficial for different perspectives. Since Klofsten et al. (2015) state that the activities arranged by the cluster initiative needs to be based on the skills and services which are already available in the region and specifically have been developed for the cluster, an observation was made that Telematics Valley could arrange activities which are connected to already existing projects arranged by the region of Gothenburg. One example of this is engaging in the Green City Zone Project. The main contribution that Telematics Valley could give to this project is the unique network that the members have according to the respondents. Further, by being involved in this arranged activity members could get more involved in the RIS and the cluster of Gothenburg which could lead to more connections, learning and business opportunities for the members. This could in turn also benefit the Green City Zone Project, which means that the region can gain more competitive advantage since more actors who are working on the same goal can enhance the development of the industry.

Activities during and after Covid 19

Due to the fact that Telematics Valley has not arranged any activities during the last year because of Covid 19, several respondents had opinions regarding how the organisation can plan future activities based on the current situation. A majority of the respondents mentioned that online interaction does not provide enough value as physical meetings. Seven respondents stated that this is why Telematics Valley made an active choice to not have online interactions during Covid

19. Four respondents were pro digital interaction and events and seven participants were pro a hybrid approach between online and physical interaction. No matter what type of approach the respondents were for or against in this question, a majority of all respondents shared the view that Telematics Valley should plan an activity or do some type of action as soon as possible - whether it is physical or online. The reason for this is that the organisation needs to get into people's minds and show other external actors that they exist. The authors agree that it is crucial for the organisation to make up an action plan promptly since this might possibly determine the future development of Telematics Valley.

Independent of how the situation in the world evolves in the future, Telematics Valley could choose between three options how they would like to arrange their activities: only through physical interaction, only digital interaction or a combination of these two. Depending on the approach that Telematics Valley chooses in this specific question, the authors want to underline the importance of remaining active throughout the process. If an online approach is being considered within the period of 1-3 years, then the importance lies in finding a suitable digital platform for discussion and setting up action plans for the content and structure of digital events and seminars. Also, if the online approach is chosen, then it could potentially be a good idea to set time aside and start planning for upcoming physical events that could stimulate the development and attractiveness of the organisation. If a physical approach is chosen, then the importance lies in reaching out to members and planning relevant physical activities that the members will benefit from.

Collaboration

The most mentioned activity from the respondents was to gather and include various organisations in related industries in the Telematics Valley events. A majority of the respondents also believe that Telematics Valley should focus on encouraging collaboration with other organisations and actors in the regional industry since collaboration is considered to be better than competition. The respondents stated that through collaboration, the actors in the industry will become more connected with each other. Through this, the creation of a strong and attractive environment can develop. This type of environment can make people travel from all over the world just to come to these events which will create attraction to the region. Lin et al. (2006) state that this type of activity could lead to a competitive environment in the cluster since the effects of this could be higher productivity and efficiency of the actors. Porter (2000) states that an organisation's ability to innovate is greatly dependent on the collaborative ties and cooperation between the actors in a cluster. These collaborative ties have a strong positive impact on both the firm and the regional level, which creates cluster competitiveness. Ketels & Memedovic (2008); Howells (2006); De Silva et al. (2017); Smedlund (2006) and Inkinen & Suorsa (2010) support the arranging of activities that facilitate the interaction and collaboration between the members in the cluster. This leads to competitiveness in a cluster which in turn provides a favourable environment for business growth, survival and the establishment of new enterprises, which then could lead to regional growth and development (Berzina & Garanti, 2013). Therefore the encouragement of collaboration in the cluster is beneficial for both individual actors and the region in whole.

One type of collaboration that would benefit the relationship between the actors in the industry according to the respondents, is to join forces and have joint events and conferences with other similar organisations in the region. Joining forces and splitting the workload is a basic way to help each other to promote each other's events through the different networks. The respondents also shared their thoughts regarding the potential collaboration arenas Telematics Valley can work with in the future. Examples of organisations that were mentioned as potential collaboration partners were MobilityXlab, DRIVE Sweden, Fordonskomponentsgruppen, Connect West, GREAT, Lindholmen Science Park and DRIVE Tel Aviv. However, as stated in the value offering section of the analysis, to be able to achieve this type of activity involving collaborations with other similar organisations, there needs to be some sort of a win-win situation for both partners to make the decision to collaborate.

Klofsten et al. (2015) argue that the activities that a cluster initiative arranges, should complement and not compete with the existing activities which are being offered in the cluster. Nonetheless, many of the respondents were clear that all different organisations mentioned filled a gap in the cluster. For example MobilityXlab is focused on the start-up scene and Connect West is about venture capital. Even though there are similar organisations in the region, several respondents believed that Telematics Valley as an organisation is unique and there are not many similar organisations that offer the same benefits. Collaboration with other similar platforms potentially means that Telematics Valley can find the gap of the activities they should arrange which are not already offered by other platforms. This is why it is necessary to have a defined niche and a unique value offering of Telematics Valley.

Through collaboration with other similar platforms, the actors in the cluster can become stronger together. The reason for this is that the different collaboration platforms mentioned by the respondents, have different focus areas and they all strive for the same agenda: to learn more, develop and find business opportunities. This means that the actors in the same industry can take advantage of each other's expertise which could further develop the regional industry. One respondent mentioned that when pushing for collaboration and by arranging shared events with other organisations and actors, there are risks that innovation will be picked up by someone. But regardless, if these types of activities are done between regional or national actors in the region, it could mean that these companies can be stronger together and gain competitive advantages compared to other international actors. According to Asheim & Coenen, (2005) regional growth and development is achieved through that. organisations join forces and innovate together.

There were also discussions regarding having more collaboration with actors in other industries that focus on connectivity. This is because the value chain of telematics is complex and many different players need to be involved. As stated in the empirical background section, the Gothenburg region has a strong automotive cluster, but also many companies that operate within the areas of life sciences, IT, program development, technology and telecommunications. Since many of the actors within these industries are working for mobility solutions and data transfer, a more varied type of industries could be something of value for collaboration with the actors in Telematics Valley.

8.5 Organisation

The factor ‘organisation’ according to Klofsten et al. (2015), is essential for a cluster initiative's success, since it refers to the activities of coordinating and developing the organisation. This success factor also includes how the cluster initiative needs to manage relations which is important for its development and further growth. The author's standpoint is to organise and plan strategies and make decisions regarding what the organisation stands for in order to establish what valuable activities and relationships the members need. To be able to achieve this success factor, the authors want to highlight the significance of stating the mission, vision (as stated in ‘idea’) and the desired role for Telematics Valley. Since it is the basic ground for smooth functioning of the organisation.

The future potential role of Telematics Valley

The current perceived role of Telematics Valley by the respondents is that of a facilitator for networks in the regional industry and an enabler of knowledge sharing between the member organisations. However, the data results also showed that the respondents had a desire for the organisation to evolve into something else and become more established and more appealing for the region. It is evident that the members would like Telematics Valley to take on a bigger role in the regional cluster than just facilitating networks (even though the current role is something that the respondents perceive as very valuable). Examples of what kind of role Telematics Valley could take according to the different respondents are: *integrator, thought leader, advisory, catalyst, inspirational role, influencing role.* The desired future role of Telematics Valley differs somewhat from the various respondents, however the content was rather similar since the terms used to describe the future role of Telematics Valley was to act as an intermediary that inspires and supports the members with different links.

The role that a cluster initiative should play in a regional cluster is to facilitate the interaction between the members in the cluster (De Silva et al., 2017); Howells, 2006); Ketels & Memedovic, 2008; Smedlund, 2006). As stated above, the respondents perceive that this is something that Telematics Valley currently does. However, what must be taken into consideration is that the respondents perceive that the interaction that is facilitated by Telematics Valley is exclusively within the group of actors that are members of the cluster initiative. In other words ‘enterprises from the industry’ as described by Berzina & Garanti (2013). What Ketels & Memedovic (2008) and Smedlund (2006) mean by facilitating the interaction between the members in the cluster, applies to all actors that exist in the cluster. Apart from enterprises from the industry, Berzina & Garanti (2013) describe the other actors in a cluster as governmental institutions, education and other institutions, enterprises from the industry and related companies. It could then be necessary for Telematics Valley to become a successful cluster initiative, to act as a facilitator of interaction between all members of the cluster.

Providing links to Regional authorities / Public sector

The success factor ‘organisation’ by Klofsten et al. (2015) refers to the cluster initiatives’

management of relations essential for its development and further growth and the establishment of links with outside actors like financiers and policy actors. Inkinen & Suorsa (2010) stated that a cluster initiative should work to communicate opportunities and regional development activities to businesses and the public sector. Porter (1998; 2000) argues that all institutions such as education, research, financial, governmental and other institutions are crucial for a cluster's development since they can support enterprises with support regarding financing, innovation and knowledge transfer among other benefits. Therefore, it might be valuable for Telematics Valley to start to connect the member organisations with outside actors like policy actors just as Klofsten et al. (2015) states that a cluster initiative has to do for achieving the success factor 'organisation'.

Currently, Telematics Valley does not support the actors in the cluster with these types of links and support. However from the perspective of striving towards contributing to regional growth and development, this might be something for Telematics Valley to provide to the members. There were a few respondents that mentioned that Telematics Valley might need more interaction with for example governmental bodies, traffic agencies and municipalities. The reason for this is that the respondents wanted to get more understanding and help regarding systems of innovation and become a part of the automotive environment in Sweden since both the city and the transport authority are responsible for the road infrastructure for smart vehicles. One of these respondents gave the perspective from an international cluster initiative and mentioned that the role of an organisation like Telematics Valley is to gather all information and communicate this to the government, so the government can react or adapt to what is happening in the industry. The respondent further means that the role of a cluster initiative means to identify financing, as for example European funding and gain visibility towards the region, the nation and even the European Union. If Telematics Valley succeeds in providing a supportive environment for business development, it could contribute to regional development according to Pachura (2010) and Stimson et al. (2006).

Some respondents thought that Telematics Valley should offer connections with for example Business Region Gothenburg since they could help the members to understand what position they have in the region and how they could achieve more competitive advantages. Since Business Region Gothenburg represents the city of Gothenburg, more interaction with this initiative could potentially be a first step. The members could express their specific needs and bring this up with the board who then takes the discussion further with Business Region Gothenburg. If the members are in need of funding opportunities, other types of requests that concern connections with other cluster organisations, governmental authorities or other municipalities, this can plausibly be communicated to Business Region Gothenburg which has expertise in many fields.

Telematics Valley is a non-profit organisation and currently the only revenue comes from the membership fee. Regarding governmental funding for Telematics Valley, only a few respondents believed that funds from the state were necessary for the development of the organisation. The respondents highlighted that the lack of funds is one of the reasons why Telematics Valley is not as established as for example DRIVE Sweden. However, many respondents expressed the opinion that they did not think that Telematics Valley should be as 'wide and open' as DRIVE Sweden. The question is therefore whether Telematics Valley should strive for funding

opportunities in order to expand. Telematics Valley can find funding opportunities that are suitable for the organisation's purpose, this could benefit the organisation since the funding can be used for arranging interesting activities and projects for the members. This in turn can lead to that the attractiveness of the organisation increases which means that the cluster initiative can become more competitive. Berzina & Garanti (2013). The authors believe that governmental funding could be beneficial for the organisation since it could enhance its capabilities to smoothly run events and administrational tasks that are necessary for the cluster initiative management. It is also essential to further strengthen the cluster and invest in the organisation, by hiring an employee who can work to run the operations for Telematics Valley.

Revampment of the organisation

A majority of the respondents highlighted the need of redesigning and modernizing Telematics Valley to make it more in sync with the current needs of the members. By reconstructing the organisation, Telematics Valley can develop their ability to manage the relations which are essential for its development and further growth, just as Klofsten et al. (2015) highlights in the success factor 'organisation' in the framework. When the organisation has achieved common grounds and expectations from the members, then the prioritisation needs to be to coordinate activities and manage essential relationships that will develop the organisation further. The discussions regarding to 'lift' the organisation, creating a '2.0' version of Telematics Valley and to be more forward oriented was recurrent during the interviews.

One respondent mentioned that Telematics Valley could be considered more as a 'coffee corner' where people from the industry meet and have informal dialogue and according to the authors, this is not how Telematics Valley wants to be considered as an organisation. Most of the respondents had suggestions about how Telematics Valley could change this pattern and develop further as an organisation. Firstly, one thing was to get more attendees and participants of the organised events and seminars and to make the organisation more appealing and valuable for the existing members. Klofsten et al. (2015) stated that the activities and programmes carried out should be developed to suit the needs and desires of the members. Since the authors made an observation regarding that the attendance of the events that Telematics Valley used to arrange could be higher, it could be an idea to a greater extent, involve the 'ambassadors' of each member company more and offer them solutions of how they should reach out to more relevant people that can attend the events. The discussion about the concerns regarding the scenario of 'losing' an ambassador also came up. Therefore, Telematics Valley should potentially arrange a structure where the organisation has contact points in each member or potentially organize a structured hand-over between the past ambassadors and the new ones.

Moreover, the discussions regarding the creation of active marketing and communication plans were identified by the authors as a gap in the organisation today. There were three respondents that did not even know that the organisation existed or if they still were active. The authors regard this as a significant sign that urgent efforts need to be made when it comes to the marketing and branding of the organisation and also to plan for how the organisation can adapt to the trends and technologies and develop interesting and current subjects that will attract both the member

organisations and external actors. In order for Telematics Valley to understand what activities and subjects that are relevant for the members (which also could lead to the comprehension of what strategy to take in the organisation), two respondents mention the importance of indulging in market research and conducting surveys for the members. The authors believe that by revamping the organisation, could potentially lead to a more favourable environment in the region since this can produce more attraction from the perspective of both involved and external actors. Furthermore, the authors believe that the time to revamp and restructure Telematics Valley is now. As this is the time for potential growth with new technologies and innovation emerging. This is the time where organisations within the cluster can benefit such a cluster initiative.

Name of the organisation

Several respondents mentioned that it could be suitable for Telematics Valley to change the name of the organisation. The reason for this is that the term Telematics can be considered to be old-fashioned and the terms Mobility, IoT and Connectivity are more frequently used today. Many of the respondents mentioned that the terms 'connectivity' or 'mobility' should be included in the name instead. Since a majority of the respondents do not use the term telematics in combination with that several of the respondents highlighted the importance of implementing the '2.0 version' of the organisation, a name change might be something of positive value according to the authors. The reason for this is that the authors interpret the organisational perspective that Klofsten et al. (2015) highlighted as a key factor of a cluster initiatives success, is the ability to establish and manage an organisation. According to the authors, there is a need to first establish a solid foundation to create a well-functioning organisation. Since there has been a stagnation of the activities and development of Telematics Valley during the last years (and additionally one year of basically no interaction or activities at all due to Covid 19), there could now potentially be a window opportunity to make a new start for the organisation. A name change could potentially lead to an increasing interest from external actors, future members and existing members. The authors think that even a small thing as a name change, could play a big role since the name of an organisation can communicate the core and purpose they want to be associated with. If Telematics Valley wants to characterize itself as an organisation that keeps up with the trends, the newest technology and connecting actors in the industry, they might need to consider having a name that communicates this.

The Regional vs. Global Approach

During the interviews, a theme regarding what type of geographical approach Telematics Valley should have to benefit the members and the region to the utmost was observed. Several respondents mentioned that they think that the regional cluster in Gothenburg has unique benefits for companies that work with connected solutions and products. According to some respondents, the region can benefit from a cluster initiative like Telematics Valley through that the organisation can bring down the barriers and facilitate knowledge flows which gives competitive advantages that in turn can benefit the whole nation as well. However the question that Telematics Valley currently is struggling with, is whether they should focus on keeping the

network on a regional level or if they should broaden the perspective to gain more competitive advantages in the cluster. There were shared views from the respondents whether Telematic Valley should solely have a regional approach or if the organisation should expand and go for a more international approach. There seemed to be a high degree of ambiguity and uncertainty regarding the subject.

Eleven respondents believe that there is a need to reach wider out in the world, (however these eleven respondents also accept that Telematics Valley has always been a strong local network with a regional approach). The reason why the respondents think that an international approach is more suitable is because of that the industry and the markets for automotive, connectivity and mobility are international and thus many believe that the members specifically will lose out if they are not connected with global actors and players within the field. Eight respondents were positive that a strong regional approach gives the best advantages.. The reason why the respondents believe in a local approach is because it facilitates organisations to leverage high quality of the regional network which contributes to good connections between the actions that are established in the region. The main reason why the respondents were against an international approach was that the network could get diluted and that the purpose of the organisation is not to have a large and broad membership base, it is rather the opposite. Two respondents mentioned the Nordic approach and three respondents mentioned the benefits of having a national approach. The national approach could be beneficial since Sweden is a small country and it is better to have collaboration than competition between for example Stockholm and Gothenburg. One respondent even thought that Stockholm based companies should be a part of Telematics Valley.

Doloreux & Parto (2005) argue that specialization, proximity, and cooperation are the most common factors within clusters, which leads to alliance, spill-overs and innovation in the regional innovation system. Further, Porter (1998); Krugman (1991); Lin et al. (2006) and Künzel et al. (2016) state that the geographical proximity of organisations facilitates the process of knowledge gaining and sharing of specialized skills and knowledge which lead to a competitive environment since the effects of this could be higher productivity and efficiency. This in turn, can enhance the region's innovation capacity and the development of the cluster Berzina & Garanti (2013). Since the literature states the benefits of the organisations being geographically close to each other, this is something that should be taken into consideration when making a decision of what type of organisation Telematics Valley should be and what approach they should take.

However, even though Telematics Valley decides to continue to remain the prioritisation of a local network, this does not exclude the strategy of broadening the network further than the boundaries of the region or nation. Two interesting statements were made from two different respondents according to the authors. These statements concerned the approach of remaining regional but to strive for making the region of Gothenburg as a connectivity hub for players and actors within the field, from all over the world. The authors believe by having this approach, Telematics Valley can assist the regional actors and also play a role of bringing both regional and international professionals within related fields to Gothenburg for example, at an annual conference which would put both the region and the nation on the map. The regional growth and

development can therefore be exploited further by inviting people from all around the world to visit this local hub for interesting exchange of ideas and knowledge. This can create a favourable environment as Berzina & Garanti (2013) states. The latter mentioned approach is to both find a way of positioning in a local sense, but also to open up for the world. It does not mean that Telematics Valley should have events abroad. It rather means that the organisation should have its base in Gothenburg, focusing on the local network but during the same time act as a role model for other similar international cluster initiatives, and welcome other international actors to Gothenburg once a year and make it become the main event in Europe that people in the industry wants and needs to attend. However, the authors want to underline the importance of first establishing a well-functioning regional network and continue to focus on the involvement of members in the region. Telematics Valley should prioritise taking actions and taking an approach which could make the cluster more competitive, which would then could contribute towards regional growth and development (Berzina & Garanti, 2013).

9. Discussion

In this section the authors critically discuss the key findings of the study in a conclusive manner. The discussion aims to show how the key findings fit with the existing body of knowledge about the specific area.

To answer the main research question, the authors have analysed the framework by Klofsten et al. (2015) which highlights the key factors that a cluster initiative needs in order to be successful. These factors are: *Idea, Driving forces & commitment, Critical mass, Activities and Organisation.* The themes derived from the collected empirical results were all well-suited into the five success factors highlighted by Klofsten et al. (2015), which has been discussed in detail in the analysis section. The themes and the sub themes divided into the five success factors can be visualised in *figure 6* below:

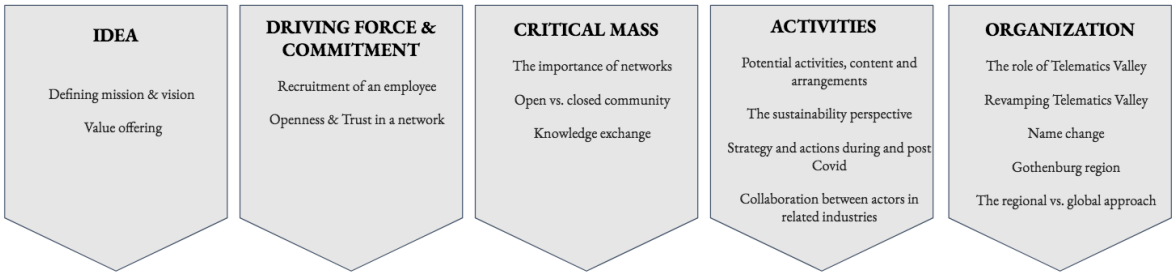

Figure 6: *'Themes and the sub themes divided into the five success factors'* (Compiled by the authors)

The obtained themes from the empirical data corresponded well with the stated factors in the success factors framework. The authors believe that the perspectives shared by the respondents in combination with the literature background, reiterate the importance of the success elements highlighted and framed by Klofsten et al. (2015). It puts together the results of this research in a coherent and cohesive manner, and effectively answers the research question(s).

The authors can argue that the five factors *(Idea, Driving force & Commitment, Critical Mass, Activities and Organisation)* are essential for Telematics Valley to become successful. However, they are currently absent from the organisation. Therefore, Telematics Valley needs a plan and execution of certain actions to effectively realize these factors, which will positively impact the cluster initiative's success. The derived themes wholly reflect the actions that Telematics Valley can potentially undertake, to not only reinforce the cluster but also enhance regional growth.

To answer the sub-research question, the authors investigated and analysed the framework 'regional cluster effect on regional growth and development' by Berzina & Garanti (2013). Further, the five factors outlined by Klofsten et al. (2015) and the corresponding themes within them, together aid in answering the research questions regarding the critical success factors and the actions needed by Telematics Valley. The actions needed by Telematics Valley to both achieve the five stated success factors and thus enhance regional growth and development are:

A well formulated *idea* is a crucial success factor for Telematics Valley. This implies the need for management actions regarding the development of a proper *mission and vision* statement and a strategic action plan in close coordination with the board and the involved members. This will be a process where the right target group and the precise need fulfilled by the cluster initiative will be identified, discussed and translated into specific goals and actions. The result will be the strategic planning to realise the mission and vision, properly illustrating what the cluster initiative wants to achieve from a long term perspective. Furthermore, defining the *value offering* for Telematics Valley is essential, which calls for action for the core group of the organisation to work towards defining the specific niche and value the cluster initiative provides for its members. Defining the value offering will also open up opportunities for Telematics Valley to collaborate with potential partners and establish alliances.

Driving forces and commitment is critical for Telematics Valley since it focuses on the involvement of motivated and driven individuals for the cluster initiative. These individuals are the ones to plan and drive the processes and the activities forward for the organisation. A potential action is the *recruitment of an employee* (either for a short or long period) since it is of great importance to develop a human resource plan for Telematics Valley. The management needs to take action regarding the possibility of hiring a driven and committed employee based on competency, who assists to drive the operations and handle the administration for Telematics Valley. However, it was made clear that the control of strategic direction and purpose for the organisation remains with the core group of the cluster initiative. The core group must stay in power to drive the overall organisation and retain their passion by being in charge. The administrative tasks can however be delegated. Moreover, *openness and trust* and the action of creating a positive ambience and feeling of trust is needed to be ensured in Telematics Valley. This can be attained through involving only truly dedicated and genuine members within the association. So that valuable member exchange can occur, which can lead to collaboration and increased innovation.

For gaining *Critical mass* in Telematics Valley, there is a need to take the action of enhancing and *strengthening network ties,* connecting and bringing more professionals with unique competences and expertise together, to facilitate valuable *knowledge exchange.* This means that the action needed is to involve a decent and adequate number of members who all are diverse in terms of backgrounds, knowledge and experiences, for the cluster initiative to function effectively and create competitive advantages for the member organisations. The involvement of actors within the specific industry, other connected industries, people from various departments from the member organisations and further, involving academia and engaging more students in the critical mass is therefore important. However, this action requires that Telematics Valley carefully chooses the membership base, since the aim is not to achieve an increasing membership size, as that could potentially dilute the intensity and connections between the members. In terms of the *open and closed approach*, Telematics Valley should focus on both approaches. The closed approach should be applied on keeping the membership base unique and tightly knit, where there is trust. The open approach should be applied in terms of letting external actors (non-members) into events and networking activities. However, non-members should not be invited to the yearly meeting and get the same benefits as the paying members. The inclusion of external members

should be done on a regular basis in terms of broadening the network and business opportunities for the members. The reason for this is that it is of value to have a diverse variety of people which invigorates more valuable exchange, which is crucial for achieving success in a cluster.

Activities are crucial for a cluster initiative to offer for its members. These offered activities should be appealing and valuable that make it beneficial to be a part of the cluster initiative for the members and which promotes the networks in the cluster. This means that the *content and arrangement* of the seminars and events should be interesting and up to date and in accordance with what the member companies are currently facing in the industry, for example innovation, future technologies and the incorporation of *sustainability* in the main subjects. Further actions are to join forces and have joint events and conferences with other similar organisations in the region. Moreover, Telematics Valley should offer the activities of providing education and training should be included, this can be done both through connecting links between members and actors who offer training and educational programmes and arrange activities where the members educate each other in their specific area of expertise. Additionally, the actions of encouraging *collaboration* with other organisations and actors in the regional industry is important since the value chain of telematics is complex and many different players need to be involved. Engagement in the Green City Zone Project could also be a valuable action. Regarding the *actions during and post Covid 19,* the future activities should be offered by using a hybrid approach, where the network activities happen physically and the knowledge exchange, discussions and education potentially can be done through a digital platform. The only missing element in the collected data was the incorporation of entrepreneurial activities and the spirit of entrepreneurship within Telematics Valley. Telematics Valley therefore needs to consider involving entrepreneurs for its different activities and events. Fostering entrepreneurship is an important aspect that has been highlighted by Klofsten et al. (2015), stating its significance for a cluster intuitive success. However, this aspect is missing in the collected data and the shared views of the respondents.

The *organisational* factor is essential for a cluster initiative's success. Telematics Valley therefore needs to have a defined organisational structure, outlining the specific roles and responsibilities - for better coordination of tasks. Telematics Valley needs to take on the actions of investigating the expectations from the members and then prioritise a *revampment* of the organisation in order to coordinate activities and manage essential relationships that will develop the organisation further. The authors want to reiterate that the time for revamping Telematics Valley is now. As the rise in 'connectivity' and 'mobility' makes this a good time for this cluster initiative to develop and reinforce the cluster. In terms of taking on the action of reconstructing Telematics Valley, a *name change* which is more up to date and appealing from an external perspective, which potentially includes the terms connectivity or mobility is of value. In terms of revamping Telematics Valley, the actions that are essential are the creation of a structure of how hand-overs between the past ambassadors and the new ones should be established. Telematics Valley further needs to construct a structure regarding how the ambassadors should work for reaching out to relevant people that can attend the events. Other important actions are the creation of active marketing, branding, communication plans, market research and the conduction of surveys for the members. The *role* that Telematics Valley should play in the

regional cluster is the role of a facilitator of links between the member companies and the other actors in the cluster, such as governmental authorities, traffic agencies and the municipality, and not only facilitating networks between the members. This role can be simplified through more interaction with Business Region Gothenburg that represents the city of Gothenburg and which has expertise and connections in many fields. The stated future role therefore emphasizes the *geographical approach* of remaining regional since the proximity of organisations facilitates the process of knowledge gaining and sharing of specialized skills. However, taking on this approach does not exclude the approach of opening up for international actors. The actions that can be made is to make the region of Gothenburg as a connectivity hub for players and actors within the field, from all over the world.

By incorporating the five success factors stated by Klofsten et al. (2015) and undertaking the relevant actions to achieve them, Telematics Valley can reinforce itself as a successful cluster initiative. By becoming a successful cluster initiative, Telematics Valley can enhance the growth and development of the region since these actions can make the **regional cluster more competitive.** The reconstructing of Telematics Valley together with a well-defined niche and with a varied and unique membership base, motivated members can connect in an open atmosphere. This could open up doors for potential partnerships and alliances, boosting interaction, strengthening of networks and knowledge exchange between actors in the industry. By opening up for external actors, offering relevant activities and by taking the role as a facilitator of network links between the member organisations and the various actors in the cluster, Telematics Valley can enhance knowledge exchange and innovation capacity. This can thus lead to the regional cluster competitiveness which in turn contributes to a **favourable environment for business growth, survival and establishment of new enterprises** which then leads to **regional growth and development** as Berzina and Garanti (2013) states.

Furthermore, the purpose of the study was also to propose practical recommendations to Telematics Valley. These recommendations are based on the collected insights and the overall results of the thorough investigation of the research subject. The following section will thus focus on the detailed description of the recommendations.

10. Practical Recommendations

In this section, several potential recommendations are provided through the four actions framework. These recommendations aim to communicate what Telematics Valley should create, raise, reduce and eliminate in order to achieve the five different success factors and what actions the organisation should take in the future to enhance the regional growth and development in Gothenburg.

The recommendations provided in this section are based on the analysis which was derived from the empirical results and the collective insights. The authors are here presenting their proposal and perspective as to what needs to be considered by Telematics Valley in order to become successful and reinforce the regional industry. The recommendations are based on the actions that Telematics Valley needs to *create, raise, reduce and eliminate,* to become a successful cluster initiative. These recommendations are divided into the five success factors (*idea, driving force and commitment, critical mass, activities and organisation*) individually.

Idea

CREATE	RAISE	REDUCE	ELIMINATE
• A mission & vision statement to be able to translate the vision and mission into actions and objectives. • Define a niche and a unique value offering. • An overall future strategy and a functional action plan. • A way of finding the specific needs that Telematics Valley fulfils for its members and the industry in general in order to find the current gap, which is not being offered by other cluster organisations within connectivity and mobility. • Cluster benchmarking and analysis of the strengths and weaknesses of the cluster. • An unanimous decision and outlook from the board since this is required to take the organisation to the next stage. • An effective internal communications system for better integration and achievement of goals, keeping all the stakeholders and members aligned.	• The pace and work regarding defining the idea of Telematics. This is a crucial area, which needs to be addressed post-haste, if Telematics Valley wants to continue its existence and swiftly progress in the future. • That the board members of the organisation works towards a defined purpose, which will help to enhance the efficiency of the organisation. • The question of involving students in the development of a value proposition. This will enable the organisation to find a better fit in terms of the potential collaborative partners and members.	• Ambiguity in terms of the purpose and goal of the organisation. • The varying and distinctive opinions amongst the board members regarding the approach and strategic future goal of Telematics Valley through internal communication.	• The former view and vision of just being a networking platform needs to be altered. Telematics Valley has the potential to accomplish and implement more. • The stagnant path of not investigating the purpose for the organisation's existence.

Driving Force & Commitment

CREATE	RAISE	REDUCE	ELIMINATE
• Human resource development plan - hiring a driven employee to run the operations for Telematics Valley (for a period of 6-12 months). This employment could be half or full time. • A well-planned organisational structure - specifying roles, decision making and responsibilities. • The awareness that the board members are in control of setting the strategy, purpose and direction for the organisation, not the hired employee. • The right balance between freedom of action and control for the core individuals. • A welcoming atmosphere with positive energy for valuable exchange to occur. • An analysis regarding which kind of companies would benefit from being members (energy, IT) to make this a strong cluster.	• Currently it is the passion that drives Telematics Valley forward, therefore this passion needs to be raised and sustained in the future. • A motivating and positive environment which excites people to be a part of this platform. This involves finding the key factors which boosts the energy and the enthusiasm of the involved individuals. • Stimulation of operations and speeding up of processes within the organisation.	• The risks of putting too much pressure on the board members to drive the development progress themselves in their free time by collectively making an action plan which clearly describes who is responsible for what.	• The possibility of board members leaning back if an employee is hired through ensuring well-defined roles and responsibilities.

Critical Mass

CREATE	RAISE	REDUCE	ELIMINATE
Membership base • A critical mass in terms of size and diversity, by including members from not only the telematics industry, but also from other connected industries. • The assurance that members have diverse expertise and experiences in order to create valuable knowledge exchange and networking. • A structure of asking for motivation from future members regarding why they want to be members, and make a decision in the board, in order to just include members who are aligned with Telematics Valley. *External links* • A more open approach where external actors can be involved in events and networking activities. • External links and partnerships outside the cluster initiative, involving in the triple helix model. This means engaging actors from academia, related firms and the society in general. • Involvement of students and adding a younger dimension in the organisation in order to exploit a more fresh and modern approach.	• The attraction for Telematics Valley and gain more members to strengthen the network ties through integration and creation of interpersonal links and social networks which will lead to a feeling of a close-knit community and a unique membership base where there is trust. • The question of including more people from different departments (for example legal and IP) from the member organisations. • The knowledge exchange regarding new trends, disruptive technologies, the market and the industry in general between the members through a diverse and established network.	• The image that Telematics Valley is a closed organisation which does not include external actors that are not established in the region, by opening up towards more external interactions on events.	• The idea of expanding the membership size drastically, since that could potentially lead to dilution of the connections and exchange. • The risk of not including a diverse set of members since a cluster initiative needs people from varying backgrounds, knowledge and experiences.

Activities

CREATE	RAISE	REDUCE	ELIMINATE
• Action plans regarding internal activities and events. • Educational activities of connecting the members to other actors in the cluster and the RIS. • Collaboration with actors in other industries that focus on connectivity and with similar organisations. • Arrangements where members can volunteer to hold a 60 minute educational seminar within their specific area of expertise. • The engagement of students in activities who can help to arrange events and handle the administrative parts. • A hybrid approach where the networking activities happen physically and the educational activities and discussions occasionally occur digitally. • A suitable digital platform where the members can create discussion threads and have discussion forums online. • The prioritisation of arranging any type of activity very soon, whether it is physical or digital to get back into people's minds. • The engagement of entrepreneurial spirits through incorporating entrepreneurs and entrepreneurship based activities.	• The attractiveness of the offered activities that are more up to date and more suitable for the members. • Incorporating sustainability in the main topics of the seminars and events. • Activities to stimulate development of innovation projects and cooperation, improving innovative capabilities of cluster members. • The arrangement of interactive activities such as round-table discussions, discussion forums, deep-dive events in a particular subject and adding more inspirational speakers to the activities.	• The idea of collaborating with larger similar organisations like DRIVE Sweden and larger international cluster organisations. • The false perception that innovation can be picked up by someone through regional collaborative activities, if these types of activities are made together with trustworthy actors in the region or nation, it still gives competitive advantages compared to other international actors	• The hesitance to engage in online activities via digital platforms. • The idea to have the sustainability perspective as the main topic in seminars and events, it should rather be incorporated in other main subjects and activities. • The risks of students getting too much involvement in the events so that the members lose interest and motivation.

Organisation

CREATE	RAISE	REDUCE	ELIMINATE
• The role of acting as a bridge and providing links to all actors in the regional cluster such as regional authorities, traffic agencies and municipalities, various institutions and related companies in the industry. • A strong regional base in Gothenburg, promoting Telematics Valley as a connectivity hub for players and actors within the field. • Openness towards international networks and bringing international professionals within Gothenburg at an annual conference which would put both the region and the nation on the map. • A reconstruction of the organisation enhancing the visibility and recognition in the region through concrete marketing and communication plans and branding. • Market research and exploration of market trends and development potential and opportunities. • Conduction of surveys for the members for relevant topics and events. • A structure where the organisation has contact points in each member and a structured hand-over between the past ambassadors and the new ones. • Engagement of students in the reconstruction process of Telematics Valley. • A more modern name for Telematics Valley which includes the terms ‘connectivity’ or ‘mobility’. • The investigation of potential funds for Telematics Valley.	• The facilitation of networks between the members and within regional network through relevant events and thereby strengthening the organisation's position in the region. • The attractiveness of the organisation for international organisations and cluster initiatives to travel to Gothenburg to take advantage of the Telematics Valley network by arranging a well-known annual conference. • The attendance of relevant actors on the events by developing a structure regarding how the ambassadors should work for reaching out to relevant people that can attend the events. • The competitive advantages of being established in Gothenburg though specialization, proximity, and cooperation. • The interaction with Business Region Gothenburg which represents the city of Gothenburg.	• The pressure of that Telematics Valley should be as established as organisations that are initiated by the government.	• Current name of the organisation. • The old patterns of being perceived as a “coffee corner”. • The idea of recruiting international members. • The ambiguity of having a regional or international approach.

11. Conclusion

In the following section, the authors finalize the research by concluding the main findings. Firstly, the results are connected back to the aim and research questions of the study followed by the answering of the stated research questions. The contributions of the study and future research proposal are also highlighted.

The purpose of this study was to investigate and identify the crucial success factors needed by the cluster initiative Telematics Valley and what actions it needs to be undertaken to contribute towards regional growth and development.

Connecting back to the main research question for the study, which was stated as:

- W*hat are the crucial factors for Telematics Valley in order to become a successful cluster initiative?*

The themes derived from the collected empirical results were all well-suited into the five success factors highlighted by Klofsten et al. (2015). The critical success factors that Telematics Valley needs to entail are summarised as follows:

1. A well-defined and visualised **idea** that assists in identifying the purpose and the exact needs ought to be fulfilled by the cluster initiative.
2. The presence of **driving forces & commitment** from the individuals involved who drive the processes forward and who embody the right eagerness, enthusiasm and vigour.
3. The creation of a **critical mass** which denotes a sufficient number of membership base and also a diverse set of skills, background and knowledge.
4. Relevant planned **activities** which makes it beneficial for the members to be a part of the cluster initiative.
5. Skilful and organised ways of coordinating and developing the **organisation**.

The sub-research question was stated as:

- *What potential actions should Telematics Valley undertake to enhance regional growth and development?*

The derived themes wholly reflect the actions that Telematics Valley can potentially undertake, to not only reinforce the cluster but also enhance regional growth. By incorporating the five success factors stated by Klofsten et al. (2015) and undertaking the relevant actions to achieve them, Telematics Valley can reinforce itself as a successful cluster initiative. Thus, together aids in answering the research questions regarding the critical success factors and the actions needed by Telematics Valley.

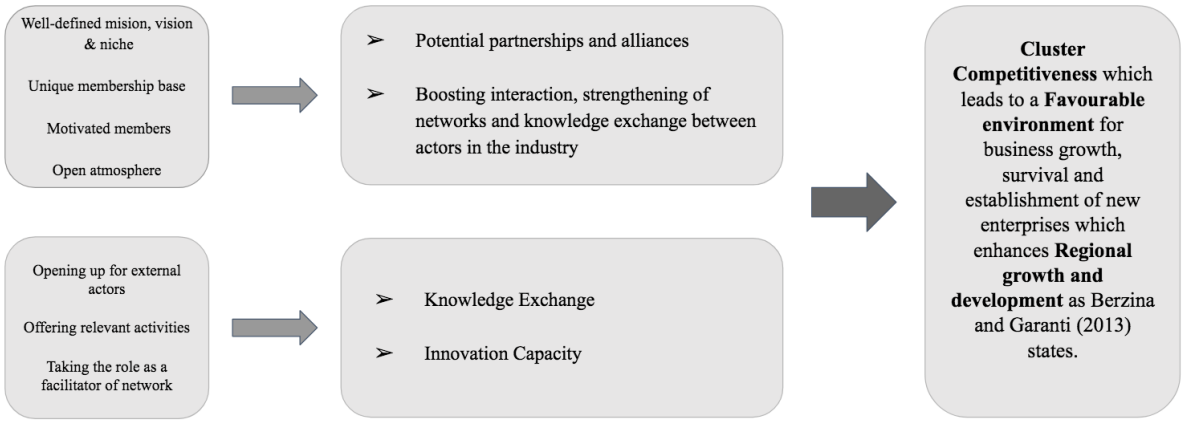

Figure 7: '*Conclusion overview'* (Compiled by the authors)

To conclude, the authors can say that all the derived themes and sub themes fitted well into the framework and the factors by Klofsten et al. (2015) Therefore, the authors believe that together we think that the identified factors and actions have aided us to effectively answer the research questions for the study. The results of this study supports a better understanding of what specific factors make cluster initiatives successful and what actions are needed in order to realise these factors, so that in turn regional competence can be enhanced.

The authors deduce that the success of a cluster initiative is a multifaceted process and entails multiple factors. This study aimed to identify the crucial factors needed for Telematics Valley. It involved taking into account distinct shared perspectives and insights, exploring it through the lens of the interviewed respondents. The authors can argue that achieving cluster initiative success is complex and requires multilateral coordination and elements to be taken into account. The result of this study supports a better understanding of what specific factors make cluster initiatives successful and what actions need to be undertaken to realise these factors. Moreover, the results also highlight the success factors and the required actions as important strategic tools for regional development and growth. It is thus evident that cluster initiatives can in fact contribute towards reinforcement of regional competence. The outcomes of the study, enables one to holistically view the entire system within which Telematics Valley exists and then how the right success factors and actions taken can consequently lead towards cluster competitiveness, which in turn boosts regional development.

11.1 Contribution Of The Study

The contribution of the study can be separated into academic contribution and practical contribution.

Academic Contribution

The main contribution of this study is a deeper understanding of the success factors that can make cluster initiatives successful, across all industries and geographical locations. It gives insights into the actions which are required to attain those factors and how that leads to regional growth and development. Moreover, since there is a shortage of research related to cluster initiative success management, this research provides an academic contribution within the subject.

However, the authors argue that there is still room for further research on this subject, which is touched upon in the future research proposal (Section 11.2).

Furthermore, the study validates the success factors framework by Klofsten et al., (2015) and how that fits well with the framework of Berzina & Garanti (2013) regarding how clusters contribute to regional development. The study thus illustrates how regional growth and development can be achieved by having a successful cluster initiative. The adapted framework created by the authors contributes towards giving a holistic view of how a cluster initiative works within the RIS and a cluster and how that directly impacts the region's progress. Therefore, the authors believe there is scientific value in how these theories complement and support each other, and provide a better understanding of the success factors and actions that a cluster initiative needs.

Practical Contribution
This study has generated an in-depth understanding of the crucial success factors needed by Telematics Valley and the actions it needs to take to enhance regional development. This has enabled the authors to observe and conclude some practical recommendations for the cluster initiative. These recommendations form the practical contribution for the study, highlighting and stressing on the potential actions which are important for Telematics Valley to take in the near future in order to facilitate for the organisations in the regional cluster. The recommendations are based on the insights and data collected during the interview process and also through the overall investigation carried out by the researchers. These recommendations will be accounted for in detail and can be found in section 10.

11.2 Future Research Proposal

This study focused on the cluster initiative Telematics Valley and the success factors that are needed for the organisation to become competitive in the regional telematics cluster of Gothenburg. Furthermore, the focus of the study was to investigate what actions are needed by Telematics Valley in order for the cluster initiative to contribute towards regional growth and development. This study therefore had distinctive focus areas which were explored through the perspective of Telematics Valley and the region of Gothenburg. As stated in the problem discussion, there are few studies that concern how the organisations within the clusters are facilitated through cluster initiatives. Since this particular study only investigated how one specific cluster initiative potentially could facilitate for involved organisations in the regional cluster of Gothenburg, further research which includes comparative analysis or benchmarking of other cluster organisations would be of value. This type of comparative benchmarking could compare how different cluster initiatives from different nations can facilitate organisations within the specific regional clusters.

There is a lack of research that is directly concerned with success factors needed by cluster initiatives. The reason for this is that qualitative success is difficult to define and measure. For future research, the authors therefore suggest a quantitative study on factors which makes cluster initiatives successful.

As mentioned, Telematics Valley needs to find their specific value offering. The creation of a value proposition which would enable the organisation to find a better fit in terms of the potential collaborative partners and members would therefore be of value. Since framing a value proposition requires extensive and precise research, a potential future investigation area could be to conduct market research and in depth exploration of how Telematics Valley can frame their value proposition.

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Appendices

Appendix A: Interview Guide

Introduction

- Description, purpose & structure of the interview will be presented (the number of questions asked & the approximate length of the interview will also be stated).
- Do you accept that this interview is being recorded, for the purpose of transcription?
- Do you have any further questions before we proceed?

General – Industry

1. What does your organisation do and what role do you have?

2. How do you/your clients/your member organisations leverage telematics in order to offer your/ their different connected services?

3. How do you think cluster initiatives could enhance and contribute towards regional growth and development?

Telematics Valley

3. Tell us about your experiences with Telematics Valley so far? How familiar are you with the organisation?

4. How would you describe what the interaction looks like between your company/association and Telematics Valley?

Potential follow up: Have you been participating in any of the Telematics Valley meetings or seminars? What would you like more/less of during these gatherings? What would have been beneficial for you? What can they do better?

5. What are the biggest values that a cluster initiative like Telematics Valley brings to the regional industry and to the member organisations in Gothenburg?

6. What contexts/offerings do you think that organisations within the telematics industries who are part of a regional cluster lack? What should Telematics Valley support the members with that they lack?

Potential follow up: We understand that there are not enough resources to have employees for Telematics Valley, but do you think that Telematics Valley would benefit from having one employee half/full time during a shorter period of time?

7. Now during Covid 19, how do you think Telematics should act in order to move forward, bring more valu to the regional industry and to perhaps recruit new members?

8. What actions should Telematics Valley focus on in a mid-term perspective?

Follow up: Do you think that the members would benefit more from a more globalized network? What approach is most suitable for Telematics Valley? Global or regional? Digital or more physical? Should they communicate in English or in Swedish?

Or perhaps a hybrid version?

Innovation

10. How do you think Telematics Valley can assist in driving your innovation processes forward?

12. Is there any organisation/collaboration arena that you think Telematics Valley study/collaborate with?

Follow up: What kind of collaboration should that be?

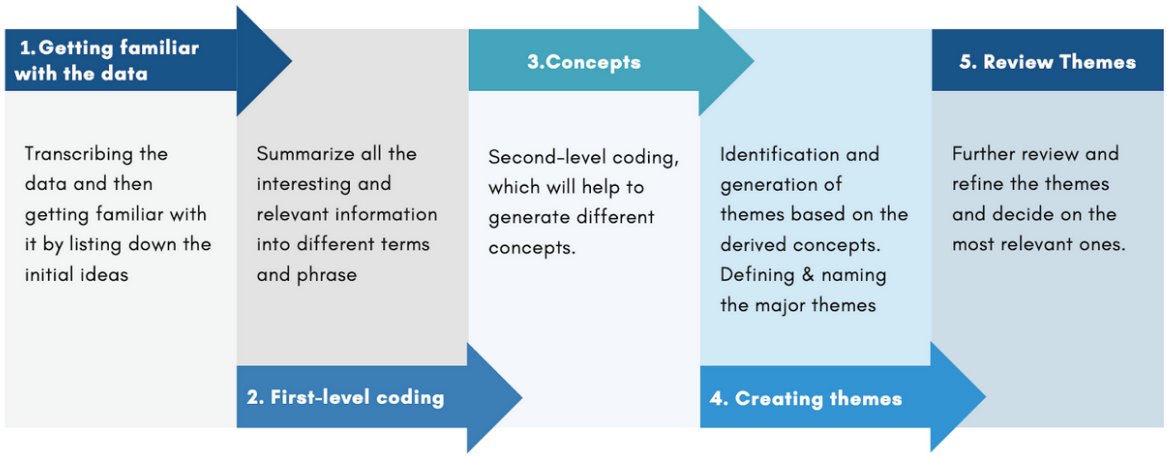
Sustainability

13. We have been thinking about the sustainability question. All initiatives need sustainability to be a part of their DNA. What value can Telematics Valley bring from a sustainability perspective?

14. Are you aware of the *Green City Zone Project* in Gothenburg? What value could Telematics Valley bring to this concept?

15. Is there anything you would like to add in the end?

Appendix B: Thematic Analysis Process



Visualised by the authors

Appendix C

Codes	Concepts	Themes
Role, facilitator, integrator, consultant, innovator, catalyst, structuring, helping, identifying, gather information, advisory role inspirational role, connector, thought leader	- Telematics Valley needs to facilitate the connections and coming together of related organisations. - There is a need for Telematics Valley to provide more valuable offerings to the actors in the region	**The role of Telematics Valley**
Network, contacts, meeting people, connections , conversations, interaction, relationships, connecting dots, dialogues	- Telematics Valley is a network organisation that connects people and brains - The telematics industry requires a stronger network within the region. More people need to connect and build contacts for the future. - Meeting people in the same area of field is important for development and innovation at organisation, industry and regional level	**The Importance of Networks**
Internal Openness between members , Activeness, engagement, positiveness, presence, energy, honesty, trust, mindset, passion	-There is a need for involvement of the member companies in Telematics Valley. Organisations need to be open in terms of sharing their experiences and expertise with each other	Openness and Trust Within Networks
Knowledge, knowledge exchange, sharing discussions, experiences, solutions, information gaining/sharing, know-how, learning, gaining knowledge, different perspectives, ideas, capacities, innovation creation	- Knowledge exchange enhances innovation performance of firms. - Builds awareness about the new radical innovations, trends and technologies. - Sharing of best practices and experiences amongst each other	**Knowledge and Knowledge Exchange**
Collaboration, Partnerships, cooperation, finding solutions together, work jointly, occasions , projects, partnerships, cross-industry collaboration, involvement	- Collaboration can aid in firms' innovation processes. - Getting help and support from relevant organisations and actors within the same industry - Telematics Valley wants to promote collaboration in the regional industry.	**Collaboration Between Actors in Related Industries**

Rebranding, Marketing, 2.0, Rebranding, new start, standardization, market study, survey, market research, developing, evolving, modernizing, structuring, revamping, becoming established, promotion	- Telematics Valley needs to revamp itself and modernise it, there is a need for Telematics Valley 2.0	**Revamping of Telematics Valley**
Mission, vision, reach a common understanding, common expectations and interests, business model, ambition	-The need of a clear mission and vision statement and finding a common ground for the members expectations	Defining the Mission and Vision
Value offering , value proposition , value creation, needs, reward, win-win situations, value capture, strength, expectations, purpose reason for existing, achievements, offerings, sweet-spot, competitive edge	- The need of finding the purpose and the value offered by Telematics Valley	Value Offering
New name, name change, telematics, connectivity, IoT, old fashioned	-A potential name change which is more up to date	Name Change
Employee, recruitment, full time, half time	- The potential action of recruiting someone to handle the coordinating and administrative tasks	Recruitment of an Employee
Activities, support, arrangements, representatives, education, workshops, round table discussions, student, specific meeting topics, events, content, new perspectives, involve academia, focus areas, administration Governmental support/funding opportunities, authorities, investments, infrastructure , city, state European Union, triple helix	- The importance of offering and arranging relevant activities and interesting content	**Potential activities, content and arrangements**
Sustainability, Green city zone	- Involvement of areas of sustainability and the Green City Zone	The Sustainability Perspective
Short term, Covid 19, Digital interaction, mental presence, physical/online, hybrid approach	-How the interaction should look like during and after Covid 19 (physical or digital)	Strategy During and After Covid 19
Regional, local, closeness, national approach global approach, international, barriers, globalization	- What geographical approach Telematics Valley should take in order to make the cluster initiative competitive	**The Global vs. the Regional Perspective**
Gothenburg as a region, cluster, Lindholmen, proximity, uniqueness, competencies/ Industry specific knowledge	- The advantages of having a proximity to related industries in the region	Gothenburg Region
Open, closed, excluding, including	-The question regarding how open Telematics Valley should be for external actors	Open vs. Closed Community

Appendix D

Number of code within the specific themes	Respondent 9	Respondent 3	Respondent 6	Respondent 13	Respondent 14	Respondent 11	Respondent 7	Respondent 10	Respondent 12	Respondent 8	Respondent 15	Respondent 1 & 2	Respondents 4 & 5	Respondents 16 & 17	Total Codes
The Role of Telematics Valley	8	5	3	4	2	8	5	6	7	2	4	10	4	5	**91**
The Importance of Networks	10	11	7	12	14	24	22	4	18	1	4	13	23	29	**138**
Openness and Trust Within Networks	3	3	0	1	0	13	3	0	9	0	3	23	0	22	**80**
Knowledge Exchange	1	11	3	10	0	16	11	8	5	0	5	9	2	10	**91**
Collaboration Between Actors in Related Industries	18	5	3	6	6	20	14	26	8	3	3	7	3	10	**132**
Revamping of Telematics Valley	6	5	2	2	14	7	3	3	2	10	5	20	0	7	**86**
Defining the Mission and Vision	0	0	0	8	2	4	7	0	2	0	14	4	3	2	**46**
Value Offering	9	5	11	32	24	13	16	6	8	1	8	8	9	12	**162**
Name Change	1	0	0	0	0	4	0	0	0	0	3	4	1	9	**22**
Recruitment of an Employee	2	2	5	0	3	6	0	0	0	0	4	0	4	7	**33**

Role of Telematics Valley	3	6	9	6	14	15	3	2	4	0	23	10	4	7	**106**
Future Activities	12	7	3	8	14	16	14	4	10	1	21	14	4	20	**148**
The Sustainability Perspective	2	3	5	1	6	5	5	4	3	1	5	4	5	5	**54**
Strategy Durin and After Covid 19	5	8	4	0	8	14	6	4	14	4	14	13	3	4	**101**
The Global vs the Regional Perspective															
Global	5	2	4	5	4	6	11	8	8	6	6	9	3	7	**84**
Regional	2	4	8	0	7	1	4	7	0	1	7	5	7	5	**58**
Gothenburg Region	3	2	5	4	0	5	4	1	3	6	2	2	10	11	**58**
Open vs. Closed Community	0	1	0	1	0	13	3	0	1	0	3	0	9	7	**22**