ORGANISATIONAL IDENTITY AUDIT - EXAMINING VISION, CULTURE, AND IMAGE OF A FINNISH DIGITAL INNOVATION HUB

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Abstract

Digital Innovation Hubs (DIHs) are multi-organisational ecosystems designed to support especially small and medium-sized enterprises (SMEs) to uptake digital technologies across Europe. These regional one-stop-shops are ecosystems of organisations and experts around specific technological competence. DIHs offer companies, especially SMEs, a variety of services that support companies to test new technologies, funding resources, training services, and access to a network of experts. As the concept of DIH is fairly new, the European Commission will continue to support financially these hubs in member states. One challenge is that DIHs are not widely recognized within the industry, and little research has been done on the organisational identity and branding of Digital Innovation Hubs.

The model developed by Hatch and Schultz (2008) suggests that strong identity and thus more effective branding are likely to occur when an organisation has alignment between the managements' strategic vision, organisational culture, and image of external stakeholders. These three areas are seen as the building blocks of organisational identity, what the organisation is, does, and says. This thesis attempts to test this theory following research questions: How to examine the Organisational Identity of a Digital Innovation Hub, and secondly, can potential misalignments between vision, culture and image be useful to improve Digital Innovation Hubs communication efforts

Keywords Digital Innovation Hub, Organisational Identity, VCI Model

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Tiivistelmä

Digitaaliset innovaatiokeskittymät (DIH) ovat usean orgnaisaation muodostamia ekosysteemejä, joiden tehtävänä on auttaa erityisesti pieniä ja keskisuuria yrityksiä hyödyntämään uusia teknologioita tuotekehityksessään. Alueellisesti toimivat hubit tyypillisesti keskittyvät tiettyyn teknologiseen erikoisosaamiseen, kuten tekoälyyn tai robotiikkaan, tuoden yhteen alan asiantuntijoita, tutkimuslaitoksia ja rahoittajia. Innovaatiokeskittymät tarjoavat yrityksille testiympäristöjä tuotekehitykseen ja pilotointiin, erilaisia rahoitusmalleja, koulutuspalveluja sekä pääsyn laajempaan asiantuntijaverkostoon. Käsitteenä Digital Innovation Hub on suhteellisen uusi, jonka vuoksi se ei ole vakiintunut teollisuudessa ja pk-yritysten keskuudessa. Samanaikaisesti Euroopan komissio aikoo rahoittaa jatkossa jäsenmaidensa DIH verkostoa ja täten tukea pk-sektorin digitalisaatiota. Tämän vuoksi tutkimuksen aiheena on DIHien organisaatioidentiteetti ja sen vaikutukset brändiin.

Pro gradu tutkielmassa sovelletaan Hatch ja Schultzin (2008) kehittämää auditointimallia suomalaiseen digitaalisen innovaatiokeskittymään. Mallin hypoteesi perustuu olettamukseen, jonka mukaan vahva organisaatioidentiteetti perustuu strategisen vision, organisaatiokulttuurin sekä organisaation sidosryhmien mielikuvien väliseen johdonmukaisuuteen. Näiden osa-alueiden välinen vahvuus heijastuu myös brändin vahvuutena, mitä organisaatio edustaa, tekee ja viestii. Pro gradun tutkimuskysymykset ovat: Kuinka tutkia digitaalisen innovaatiokeskuksen organisaatioidentiteettiä ja, kuinka johdon vision, organisaatiokulttuurin sekä ulkoisten sidosryhmien välisiä epäjohdonmukaisuuksia voidaan hyödyntää viestinnän tehostamisessa.

Asiasanat Digital Innovation Hub, Organisational Identity, VCI Model
Säilytyspaikka Jyväskylän yliopisto
Lisätiedot

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1 INTRODUCTION

The European economic area consists of Small and medium-sized enterprises (SMEs) that employ over 100 million people, account for up to half of the European Gross Domestic Product (GDP), and represent 99% of all companies (European Commission, n.d.). At the same time, they are lagging in digitalization: Less than 20% of enterprises are highly digitized (DESI 2019, p.5) and the reasons for this are multidimensional: lack of financial resources, skilled labor, or having access to new technologies are hindering SMEs to invest in new technologies (OECD, 2019). During the past decade, the European Commission has created smartisation policies to ensure the competitiveness of European industry globally and on a regional level. One of these mechanisms are Digital Innovation Hubs, regional one-stop-shops designed to help especially SMEs by granting them funding support, testing capacity to trial new technologies, and offer training.

These Digital Innovation Hubs are ecosystems of several organisations that focus on specific technological competence, e.g. robotics or advanced manufacturing, and built on existing infrastructure with research institutes or universities. Since the launch of the European Digital Innovation Hub Catalogue online, almost 700 DIH's can be found across Europe and up to 20 from Finland (European Commission, n.d.). The research question began to formulate based on a notion by Virkkunen et al. (2019) that the "DIH status" remains unfamiliar within the industry and amongst organisations (p. 24). Simultaneously, EU and national authorities fund and continue to fund DIH's to help companies uptake new technologies, but their services are not necessarily well-known within the industry.

Although the concept of a DIH may be familiar to EU authorities and policymakers, little research has been done on the DIHs branding or communication. To dig even deeper, the question began to evolve around the organizational identity of a Digital

Innovation Hub, and how to further examine the role of identity and communication. The objective was to find one DIH from Finland willing to participate in an experimental and small-scale audit to study their organizational identity and whether this exercise would reveal insights on how to improve communication strategy in the future.

The second chapter is dedicated to a literature review on identity and the conceptual evolution in academic research. The definitions of both organisational and corporate identity concepts will be explained, along with a historical review on how these two approaches have evolved. This chapter will be largely on works of Balmer, Hutch, and Schultz. The chapter will conclude with Hutch & Schultz's (2008) Vision Culture and Image alignment model and arguments as to why it was chosen as the main framework for this thesis.

The third part will outline the research question and the methodology used to approach the topic and how the data was managed against the chosen framework. The fourth chapter presents the concept of Digital Innovation Hubs, what their service concept entails, and what are the future objectives for Digital Innovation Hubs and communication. The fifth chapter is focused on the outcomes of the questionnaire and the gap analysis, followed by a discussion on the results and at the end, conclusions of this study.

2 LITERATURE REVIEW - IDENTITY AND ORGANISATIONS

This chapter describes the conceptual evolution of the identity and how the organisational identity focus derived from corporate identity studies into its own discipline. The reason for examining this evolutionary path is to contextualize the chosen model that has influences from both disciplines. This chapter will describe the origins of Hutch & Schultz's Vision Culture and Image alignment model and argue why it was chosen as the model for this thesis. The literature review is based largely on the academic literature of Balmer, Hutch, and Schultz.

2.1 Organisational and Corporate identity research

The term *identity* is often linked to a person and the understanding of « self » concerning others or the environment. Originated from Latin the name *Idem*, meaning « the same » holds a duality in its meaning; while the term implies similarity, it is also differentiating as identity is subjectively experienced and uniquely possessed, yet simultaneously reflected the external surrounding through differentiation (Buckingham, 2008, p.1). This notion is further explained by Gonzales-Miranda, Gentilin, and Ocampo-Salaza (2014) who conclude « identity seems to be the result of a certain line of reasoning that reduces what is real to what is identical, that is, to sacrifice the multiplicity of identity to explain it and to use it as a base for any theorization on the human condition (p.1). Although the term is often linked to psychology and analysis of the « self », identity has become a lens for academics in political science, anthropology, linguistics, marketing, and other disciplines and has thus resulted in several macro-level analyses and theoretical approaches. As the concept of identity

has been introduced to several disciplines, the definition has experienced similar fragmentation in academia. Similar to the term of « culture », finding a universally accepted theoretical definition for identity is nearly impossible: As researchers from different disciplinaries began to explore identity, the term thus holds several meanings that are dependent on the context and use of terminology between scholars (Davenport & Leich 2010, p.1503).
Finding a universal definition for identity in organisational or corporate research can be difficult. One good example of a collaborative effort is the Strathclyde Statement (Balmer, Greyser 1995) which was created as a joint effort by leading academics and consultants of the International Corporate Identity Group (ICIG). They describe corporate identity as follows :

> "*Every organisation has an identity. It articulates the corporate ethos, aims and values and presents a sense of individuality that can help to differentiate the organisation within its competitive environment. When well managed, corporate identity can be a powerful means of integrating the many disciplines and activities essential to an organisation's success. … By effectively managing its corporate identity an organisation can build understanding and commitment among its diverse stakeholders. This can be manifested in an ability to attract and retain customers and employees, achieve strategic alliances, gain the support of financial markets and generate a sense of direction and purpose. Corporate identity differs from traditional brand marketing since it is concerned with all of an organisation's stakeholders and the multi-faceted way in which an organisation communicates.*"

2.2 Evolution of identity research

Before proceeding to the concept of organisational identity, it is important to look back at how identity research has evolved. Based on this examination, there are two dominant schools of thought that focus on examining identity and organisations: Corporate Identity (CI) which is anchored in marketing and management studies, and Organisational Identity (OI) which has been explored by organisational behaviorists and social psychologists later on. Although both approaches focus on the question of what an organisation/corporation is, CI focuses more on the role of leadership and visual identity and holds a more practical and managerial inheritance (Balmer, 2008, p.881) whereas Organizational identity literature explores identity through the interactions of employees and their organisations (He & Balmer, 2007, p. 72 ; Hutch & Schultz, 1997, p.2).

The origins of Corporate Identity research go back to the 1950s as scholars from North America researched the management of the corporate image through external stakeholders and the graphic design paradigm. In the 1970s and 1980s scholars from Europe expanded the research towards the process of corporate identity creation, the corporate personality, and image. From the 1950s onwards, identity research was focused on the tangible interfaces of what the corporation is and how it was used e.g. in advertising and marketing. The academic approach then slowly expanded from a graphic design paradigm towards a more holistic view of emphasizing the importance of consistent messaging with corporates various stakeholders. From here on, the research expanded towards a more interdisciplinary view that saw the identity being expressed through behavior, communication, and symbolism with internal and external stakeholders (Balmer, 1998, p.340-341).

Towards the 1980s the role of corporate personnel was recognized as part of the identity formation process, which began to attract also the interest of organizational behaviorists and social psychologists (Balmer, 1998, p.965). The research paradigm shifted from marketing disciplinary towards organisational paradigms, resulting in an identity paradigm that was no longer being dominated by visual or symbolic approach, but slowly adapted concepts from organizational studies and behaviorism (Balmer, 2008, p.2). The identity-based approach in organisational studies began evolving from the mid-1980s onwards by North American and European scholars when especially social psychologists began to research the formation of organisational identity (Balmer 1998, p. 965). Although identity studies had been revolving around marketing and communications approaches, identity was explored as a socially constructed concept that members recognize as something meaningful, linking it closely to the definition of culture (Stensaker 2007, p. 16).

The organisational identity was introduced in 1985 by Albert and Whette, « Organizational Identity », a grounding article for organizational behaviorists and social scientists. Their work presented two important hypotheses that have influenced the research field. The identity of an organisation is defined as being « central, distinctive, and enduring" and formulated through a process of "inter-organizational comparisons and reflections upon them over time and critically examined especially during challenging times" (Hatch & Schultz 2004, p.83-84). The theme follows in the work developed by psychologists Henri Tajfel and John Turner who explored the relation of self to intergroup behavior and group processes, and how an individual categorizes him/herself in terms of the category (gender, nationality, etc.) itself (Hogg, Terry & White, 1995, p. 259).
Ashfort et. al. (1996) compare that organizational identity is formed in context to its

mission ".. just as an individual's identity in given social context is largely tied to his or her role in that context, an organizations' "identity is largely tied to its mission, whether it's to save souls or manufacture high-quality tires"(p.23). Although the concept of organisational identity is seen as 'enduring' by a majority of theorists, Gioia, Schultz, and Corley (2000) argue the contrary; identity is dynamic and constantly changing due to its interrelation to organisational image and how this image is perceived and interpreted through time by its members (p. 64). Hatch & Schultz (1997) describe organisational identity as "...a collective, commonly-shared understanding of the organization's distinctive values and characteristics" (p.2).

Gonzales-Miranda et. al (2014) extensive analysis on discourse development around Organisational Identity (OI) suggests the concept of identity is constantly evaluated and experimented by members, making it self-reflexive. Socially and collectively constructed identity also helps members to understand their expectations and actions better (p. 134-135). The main observation the researchers made on OI discourse was that it is detached from cultural issues, organizational culture specifically. Although identity is a « self-formation process », the research is still heavily focused on exploring organizational phenomena through subjective theoretical lenses instead of linking with cultural aspects (Gonzales-Miranda et al., 2014, p. 142). Hatch and Schultz (1997) argue that instead of culture being a measurable variant, it should be looked « as a context where interpretations of identity are formulated, and the intentions to influence organisational image are formed » (p. 2). Those who look at identity as purely psychological phenomena have critiqued that applying identity is too abstract and problematic to be applied to organizations (Hatch & Schultz, 2004 p. 3). It has been argued that Corporate Identity does not put enough emphasis on the role of employees, whereas Organisational Identity fails to consider the role of external stakeholders and image as contributing factors to identity (Balmer, 1998, p. 977).

2.3 **Managing Identity - Strategic benefits**

Managing Identity is seen as strategic importance for organisations. Ashfort and Mael (1996) state for an organisation to grasp its identity, '*who we are*', brings tremendous advantage to manage, shape, and motivate strategy '*where are we going* (p. 20). Growing competition, branding, and increasing public interest have made organisations rethink how identity can bring stronger competitive advantage (Balmer 1998, p. 987). Academics He and Balmer (2007) state that the literature examining both strategy and identity is still very much fragmented due to multidisciplinary approaches. As an example, authors (Balmer & He, 2007) present examples of how OI and CI would be approached and used for strategic purposes: OI research would focus on spin-offs or diversification whereas CI research would focus on competitive advantage (p. 72). As mentioned in the Stratchclyde Statement (1994), managing identity successfully corporation can become effective communicators towards its diverse stakeholders, attract customers and employees and generate a sense of purpose and direction. Organisational theorists Dutton and Duterich (1991) see the role of identity as a strategic filter that helps managers and individuals interpret issues (events, trends, developments) from its surrounding environment, a filtering mechanism of sorts that can also be used to influence how others perceive the organisation (p. 518). Hatch & Schultz (1997) argue that both OI and CI studies have elements that contribute to identity, but instead of choosing one or the other, it is possible to combine elements from both theories to examine identity from a more holistic point of view (p. 356).

2.4 **Hutch & Schultz : Alignment model for Vision, Culture and Image**

Hatch & Schultz introduced a cross-disciplinary approach in the late 1990s in their article « Organisational Identity » which combines theories from both corporate and organizational studies. Instead of focusing either on organizations' relationships and their external environments (corporate identity) or how internal symbolic formation takes place in organizations (organisational identity), their approach suggested merging elements from both identity theories. Hatch and Schultz argue that due to the breakdown of boundaries in modern organisations, members can be categorized either as internal or external stakeholders, e.g. being both an employee and a customer. This follows, looking at identity theory should combine knowledge from marketing discipline and organisational behaviorism, and that contemporary organization requires management to examine organisations identity as *corporate* identity (Hatch & Schultz 1997, p.2). As described earlier, both OI and CI examine identity from different angles, but by incorporating the dimension of culture into their theoretical thinking, authors have then continued to develop their research to-wards a more empirical level.

2.4.1 Vision Culture Image Model

The continuum of Hutch & Schultz' Vision Culture Image alignment model (2008) was formed as a result of their three-year CBI (Corporate Brand Initiative) study that brought together various brand managers from the corporate sector, e.g. Lego and SONY. Through real-life cases and empirical data, the researchers made discoveries about how the value of a brand is formulated between the stakeholders and how organisational theory could be used in exploring the dynamics of identity formation (p. xviii). Their research revealed that successful brand management requires a more holistic, identity-based approach rather than limiting brand management only on the external layer, e.g. the visual identity. From this research data, the authors outlined a model, Vision-Culture-Image Alignment model (VCI model) that draws its theoretical background from organizational identity dynamics whilst offering a practical framework for conducting an audit.

The VCI model is based on a hypothesis that organisational identity is built on the conversations between those who create the culture and support the delivery of services and the stakeholder responsiveness. This, in return, affects the reputation of the organization, which feeds back to the culture-makers (in this case employees and managers) and influences the self-esteem of the organization, and feeds back to the motivations of the culture-makers. The employees ideally have an emotional connection to the organisation and motivation to deliver a positive brand experience to its stakeholders. The relationships between the internal and external stakeholders ideally creates a positive spiral that feeds into a positive corporate identity and stronger self-esteem, which can help an organization endure crises better while staying in tune with its stakeholders (Hatch & Schultz, 2008, p.266).

This cycle is based on the realization that to obtain and maintain a successful brand, three dimensions must be aligned first: Top managers' vision for what they wish to accomplish, which is understood and experienced by the employees, and expectations or desires by its stakeholders. It was developed to explore these three dimensions that, according to the model developers are the building blocks of Organizational Identity, e.g. what the organisation is, does, and says (Hatch & Schultz, 2008, p. 13).

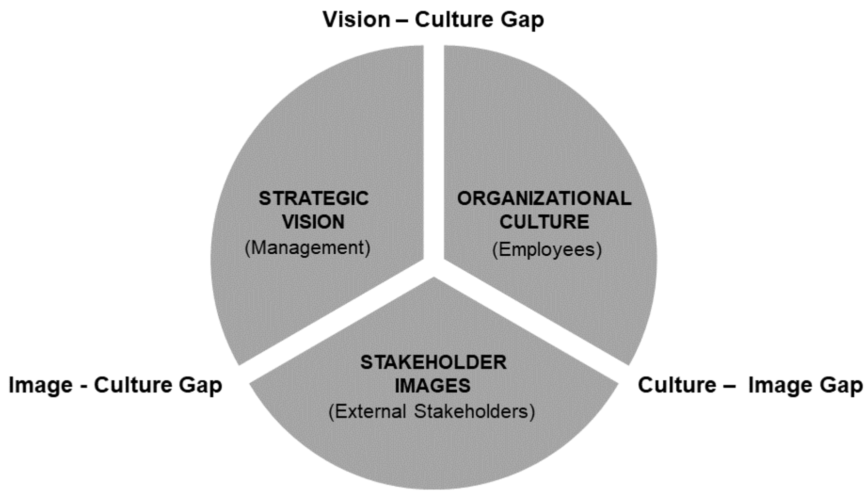


Figure 1 Vision - Culture - Image Alignment model (Hatch & Schultz, 2008, p.11)

Hatch & Schultz see these three dimensions as building blocks of organizational identity, and by identifying potential misalignments between the three, the more likely organization or company will have an impact on its branding efforts (p. 68). In an article on Harvard Business Review, Hutch and Schultz (2001, p.1) describe the three dimension as follows:

- **Vision**: The top management's aspirations for the company, visionary and strategic at nature, aims to describe e.g. 'who do we want to be'
- **Culture**: Reflections of the organization's values, behaviors, and attitudes. How employees feel about the company aiming to describe 'who we are'
- **Image**: Overall impression of the company's stakeholders (customers, shareholders, media..etc) and the image they have of the organization

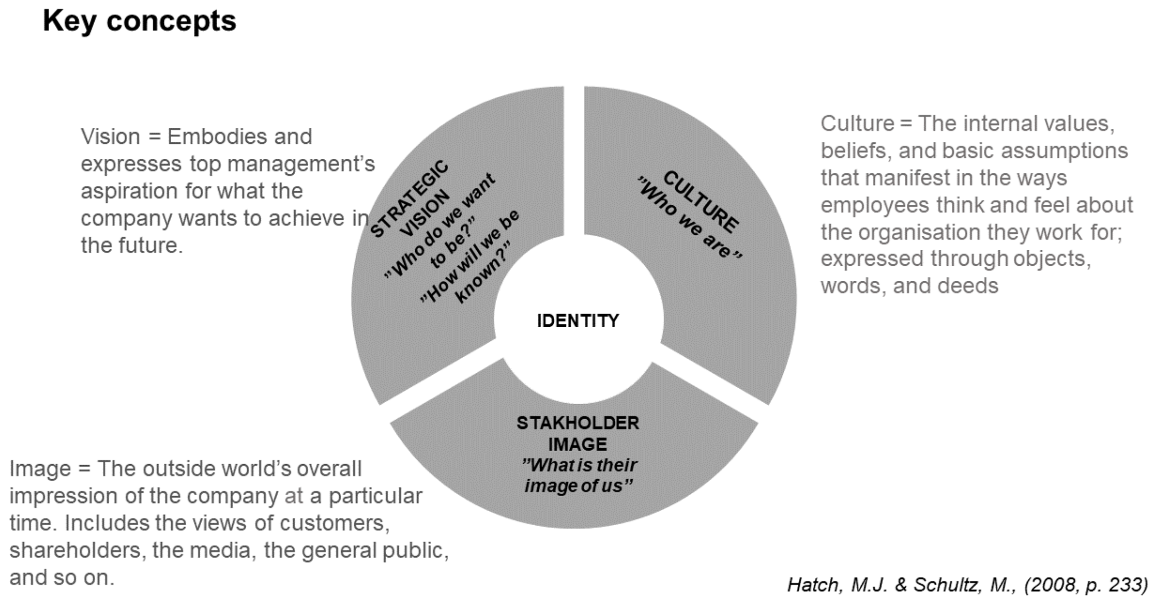


Figure 2 Definitions for the terms Vision, Culture and Image and the generic questions to help guide the analysis

Hatch and Schultz (2001) have outlined a series of questions what auditors should focus on when conducting a gap analysis. They also note that due to the complex nature of the audit, organisations and their systematic approach, addressing each group with questions proposes numerous possibilities for the researchers (Hatch & Schultz 2008, p. 79).

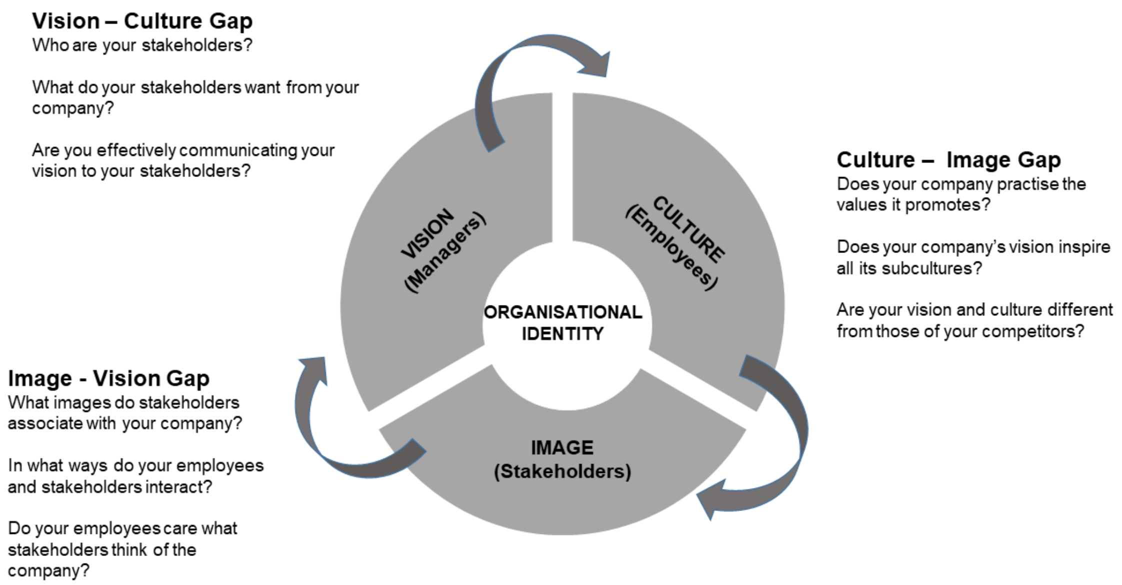


Figure 3 Gap analysis and guiding questions by Hatch & Schultz (Harvard Business Review, 2001)

Typically challenges occur when management's vision is too ambitious, people in large organisations work in silos or when organisations vision does not respond to the customer needs. These fragmentations may lead to incoherence with branding efforts. The VCI model attempts to pinpoint the problem areas that occur between external and internal stakeholders. For example, in large organisations when different subcultures such as customer service, Human Resources, Marketing, and Strategic Planning continue to operate in silos, the organizational identity conversations remain fragmented and this may reflect negatively on the equity that has been invested in the brand (Hatch & Schultz, 2008, p.78).

2.4.2 Arguments for choosing VCI model

Based on the literature review, two approaches could be used to examine identity: *corporate identity and organisational identity*. As DIH’s are essentially non-profit and cluster-like structures, the theoretical approach of organisational identity seemed a more suitable approach compared to corporate identity. After exploring different audit models, the majority of them were created within the corporate identity realm. Balmer and Soenen (1999) have compared several methods together with emerging academic approaches on corporate identity studies and theoretical frameworks. They discovered that majority of corporate identity management techniques are usually focused on the vision, identity, or values of the company according to the company managers and CEOs, and often leading towards creating a new visual identity (p. 76). The latest research literature where VCI model has been adapted to evaluate global brands, such as LEGO and British Airways, re-branding processes and what could be learned from them (Hatch & Schultz, 2008).

Although the VCI model was developed to audit corporate brands, its core dynamics are in organisational identity theory and behaviorism (Hatch, Schultz 2008, p. 68). It should be underlined that the model itself cannot address all underlying problems organisations may have with their brand but it can be useful for diagnosing obvious gaps (Hatch and Schultz, 2001, p.6). Also, the VCI model has been developed in collaboration with organisational theorists and experienced brand managers suggests that the model touches on the real pain points that branding experts are faced with.

The hypothesis of Hatch and Schultz’s VCI model (2008) is that a healthy and strong organisational identity occurs when its strategic vision, organisational culture, and image are aligned. When these three pieces come together, they are likely to manifest in effective branding efforts. Organisations that have a strong identity, can have a strong brand. As the model is designed to reveal the possible gaps between external and internal stakeholders, the model appears to be a practical diagnostical tool for managers who see strategic value in improving their brand.

The challenge is that DIHs are typically managed by several organisations, and depending on their resources, many lack in-house communication expertise. To promote DIH services for SMEs requires an active and engaging communication strategy and ideally, a well-recognized brand within the industry. Another issue is that concept of DIH is fairly new, so being able to convey "who are we and what we do" is crucial. This means DIHs will need expertise in the field of marketing and branding to achieve this. The marketing landscape, new tools, and platforms are also quickly evolving, and DIH's that wish to promote their services to SMEs, need to keep up with the development to ensure they reach out to their customers using the right channels. With effective branding strategy organisations can differentiate their products and increase communication effectiveness and ensure they are reaching their key stakeholders (Kaufmann, Vrontis, Czinkota, Hadiono, 2012, p. 193).

3 DATA AND METHOD

Hatch and Schultz have incorporated a list of methodologies they suggest for conducting the VCI model audit. The approaches include surveys, focus groups, structured interviews between stakeholders, and comparing market survey data or media coverage analysis to compare both people's perceptions, and other performance indicators. For this thesis, no external data sources were used to limit the scope and to avoid combining internal and external data sources as they may not result in comparable data (Hatch & Schultz 2008, p. 81-82).

3.1 Research Question

Although the VCI model is designed to audit brands, it hypothesizes that strong organisational identity consists of aligned strategic vision, organisational culture, and images that create "..an integrated, expressive, and satisfying whole that builds strong corporate reputations while integrating organizational behavior behind the delivery of the brand promise to all the stakeholders who make up the enterprise." (Hatch & Schultz, 2008, p. 12). To test the applicability of this model to a multi-organisational cluster, the research questions was simplified as follows:

1. How to examine the organisational identity of a Digital Innovation Hub?

2. Can potential misalignments between vision, culture and image be revealed to improve Digital Innovation Hubs communication efforts?

To approach these research questions, the VCI model was used as the main framework for designing data collection that would help produce enough content to identify gaps between managements' strategic vision, organisational culture, and image according to the external stakeholders. As this thesis attempts to test the usability of the VCI model to a relatively new organisational concept, Digital Innovation Hub, the research question is focused more on examining the execution process rather than attempting to diagnose the status of its organisational identity. The goal was to test the model and its ability to diagnose any misalignments that may have implications on its branding or communication efforts.

3.2 Methodology

The objective with the data collection was to obtain data against an existing framework developed by Hatch and Schultz. As the research topic is relatively novel and experimental, Balmer (1998) suggests conducting an ethnographic study when little reliance can be shown on previous empirical research (p.989). One of the techniques recommended by Hatch & Schultz (2008) for data collection was to conduct a series of stakeholder surveys or in-depth interviews to gain insights into each groups' views on what the company stands for, and what it delivers (p. 81). The ideal method of conducting interviews would have been face-to-face or group interviews, but with the pandemic restrictions and the number of potential individual interviews, it was decided that the data would be collected mainly via an online questionnaire, as they are considered an objective way to produce large data masses and producing generalisable results (Harris, Brown & Gavin, 2010, p. 2).

Hatch and Schultz suggest that one way to identify gaps to compare responses from different groups to similar questions, which will allow direct comparison of data between managers, employees, and stakeholders. Any lack of coherence, between the groups or inside the groups can signal a disconnect (Hatch and Schultz, 2001, p.6). To ensure enough data would be collected and such comparison would be possible, all three groups were asked both similar questions and also group-specific questions. Majority of respondents participated to a questionnaire, but two SME respondents were interviewed via TEAMS video conferencing. Using a mixed-method approach to analyse questionnaire and interviews can create challenges when comparing the data and increase the risk of misinterpretation and reduce the variability, the richness, of data (Harris, Brown & Gavin, 2010, p. 1).

An applied thematic analysis was conducted on the data, which was done in two phases. First, the data was familiarized per each group on separate excels. The goal was to look at group answers and code these answers as interpretations on how aligned / misaligned the group's answers appear to be. This process is explained in the table below:

Question	Data mass (the Board)	Initial Code
Question A	Member 1: *"my answer to A"* Member 2: *"my answer to A* Member 3: *"my answer to A* Member 4: *"my answer to A* Member 5: *"my answer to A*	*Code A* *E.g. "All members agree vision statement exists"*
Question B	Member 1: *"my answer to B"* Member 2: *"my answer to B* Member 3: *"my answer to B* Member 4: *"my answer to B* Member 5: *"my answer to B*	*Code B* *E.g. "Sufficient amount of feedback is received from companies"*
Question C	Member 1: *"my answer to A"* Member 2: *"my answer to A* Member 3: *"my answer to A* Member 4: *"my answer to A* Member 5: *"my answer to A*	*Code C* *E.g. Not all agreed on topic X*

Table 1 Example of the Initial coding process

Once this phase was done for each group and their responses, the second phase was to examine which questions would be a) comparable and b) relevant addition to the Vision-Culture-Image matrix. To do this, the relevant questions (that included relevant data) were highlighted and discussion of these misalignments and alignments were combined under Chapter 5, Findings.

How much of your work time do you dedicate to managing HUB1's affairs? (1 =	What motivated you to work for / with HUB1?	What was your first impression when you heard the name HUB1? Did you have any m
Does HUB1 have a vision statement? (= helps describe what an organization w	In your view, why does HUB1 exist? What is its purpose?	Once you had been acquainted / further collaborated with HUB1, did these misconcep
If yes: Is this vision actively shared to HUB1 'employees' / its cluster partners ar	Do you know what is the vision of HUB1? Has this been communicated to you anywhere / anytime? (Vis	What convinced you to start collaborating with HUB1 originally? What was the selling point?
If not: Do you think having a common vision might bring benefits to operative or	HUB1 is considered to be a "Digital Innovation Hub", a term given by European Commission. The	Is the term "Digital Innovation Hub" familiar to you? (YES / NO) *Digital Innovation Hubs are one-stop-shops that help companies to become more competitiv*
In your on words, why does HUB1 exist? What is its purpose?	Are you closely networking with other Digital Innovation Hubs in Finland or abroad? If so, what value has	Do you know any other Digital Innovation Hubs (from Finland / abroad)? Have you collaborat
HUB1 is considered to be a "Digital Innovation Hub" (DIH), a term given by	If you exclude the expertise in Printed Electronics, what would you say makes HUB1 different from other	Would you consider collaborating with a similar organisation such as HUB1, if it was located
What strategic benefits do you see being a member of national or international	Based on your experience, what might be the reason companies in Finland are not all seeking su	In your view, what might be the reason(s) Finnish companies -especially small and me
In your view, what are the barriers smaller companies have when they cor	In your view, what are the most important values of HUB1? (For example VTT's values include Impartiali	If you had to describe HUB1 to another company -who has no prior knowledge of it- how wo

Figure 4 Identifying comparable data suitable for VCI model

3.3 The questionnaire design

The starting point for designing the questions was to look at Hatch & Schultz definitions for Culture, Vision, and Image (see Figure 2) to gain an understanding how the questions could be contextualized. For example, the definition of culture in this model refers to the beliefs, values, and basic assumptions of the employees that manifest what they think about the organization, expressed through words, objects, and deeds. The starting point was to built questions around these definitions, that would examine how participants answer and how they can be compared, but attempting to examine how they *feel* via open-ended questionnaire would be challenging. To achieve this, interviews and focus group methodology would have been more efficient.

The questions covered topics like HUB1s Strategy, Services and the organisational culture. The reason for including Services to the questionnaire mix was because the services are the « main products » the hub has to offer for companies. The questions were designed to collect information on topics that allows the cross-examination between Boards' strategic vision, the work culture by the employees, and HUB1s image according to the SMEs. To include an iterative process, the original set of questions were showcased and tested with a volunteer from a Slovakian Digital Innovation Hub. Based on this feedback, the set of questions were expanded and further expanded. Each Group was asked around 30-40 questions total. The verbal style and orientation of the questions are exemplified in the figure below :

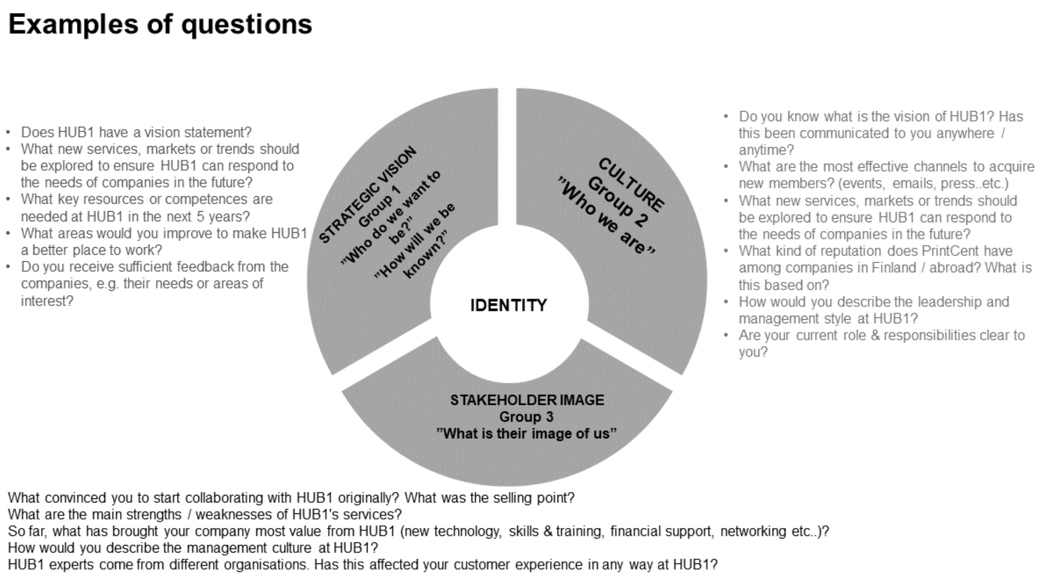


Figure 5 Examples of survey questions presented for each target group

As the total amount of questions reached over 100 and the total number of individual participants was 16, the data mass was extensive.

CEO and acting CEO were introduced the topic three months in advance. The data collection process began in early January 2021 when the research objective was presented at the HUB1 Board meeting for approval. Following this meeting, the questionnaire was shared with the Board members. The thesis topic was also presented in a weekly meeting for the Operational team, and the participants received a link to the questions after this presentation. A total of six SMEs were recruited for the questionnaire. The SMEs were selected from the existing customer base of HUB1. Two SME representatives were interviewed using TEAMS video conferencing tool. These two interviews were recorded and transcribed, and both participants were notified of this practice in advance. Four SME representatives answered the questions using an online questionnaire, a similar method as for the Board and the Operative team.

The first group, HUB1's Board is responsible for planning the strategy, and they represent the « Management » in the VCI model. The board members represent the founding organisations, funding partners, and company representatives. The response rate was 6/15. The second group, the operative team, consisted of six members: five from founding organisations and one external communications consultant. Operational team manages the daily operations and meetings of HUB1. The third group, the « external stakeholders » were the SMEs, chosen from HUB1 current industry cluster. The reason for choosing SMEs is that they are seen as the main 'customers' for DIHs and that they represent the majority of all enterprises in Europe. From the SMEs one contact person responded to the questions. A total of 16 individuals participated in the questionnaire as follows: The Board (5 respondents), Operative team (6 respondents), and SMEs (6 respondents).

3.4 Digital Innovation Hub - Case from Finland

Finnish Digital Innovation HUB1 has been operating for over a decade in Finland, and it has three founding organisations from research and academia. Its operations are focused on industrialisation and commercialisation of solutions that make use of their latest technologies, offering companies expertise and access to its three pilot facilities where they can experiment and produce new applications. Companies can get support in planning their production line or machinery selection, device integration, and conducting pre-market trials. HUB1 organizes several cluster events for its members, seminars, webinars, and other activities. HUB1 also offers graduate courses and re-educational programmes for companies and students. In addition to its founding members, HUB1 has a large consortium of both Finnish and foreign companies ranging from start-ups to large corporations in size. The organisation currently has six people working full and part-time to run its daily operations and a Board that consists of 15 representatives from founding partners and the company cluster that currently has around 40 members.

4 DIGITAL INNOVATION HUBS (DIH)

The concept of a Digital Innovation Hub (DIH) has been formulated by the European Commission (EC) as part of its strategic work to support companies, especially small and medium-sized ones, in the EU to uptake new technologies. This chapter will explain the short history of the concept, what are the criteria for a DIH, and what is their role in the next funding framework Horizon Europe 2020-2027.

In the early 2000s, the EC representatives of the Council of Lisbon set out a common strategic objective to turn Europe into a knowledge-based economy (KBE) and to create an "investment-friendly climate" especially for SMEs, and to help them reap the benefits of Information and Communication Technology (ICT) to help increase their profitability (Nachira et al. 2007, p.3). The concept of a Knowledge-based economy refers to "production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence" (Powell & Snellman 2004 p. 1). According to Nachira et al. (2007) it was concluded under the Lisbon agreement that adapting ICT-based solutions should be the key priority for businesses, in collaboration between public and private organisations, professionals, and academia, to include all stakeholders in the knowledge economy (p.13). One of the main objectives was to increase support towards entities that serve especially smaller companies in their digitalization efforts through partnerships and regional networks, which were seen as more beneficial instead of directly investing in new technologies. In concrete terms, this meant distributing financial support, regional coordination, and legislators to spark further investments to various industrial sectors (European Commission, 2016).

The concept of Digital Innovation Hub was officially launched by the European Commissions in the Digital Single Market Strategy in 2016, with €100 million to be distributed to the network of DIHs (Rissola, Sörvik 2018, p.3). This strategy was created to support the existing national digitalisation agendas and assist the digital industrial revolution regionally. According to the EC, Digital Innovation Hubs were seen as the main mechanism in achieving this, as it would bring key services directly to SMEs doorstep, despite their location or industrial sector (European Commission, n.d.). The DIHs are ecosystems that are connected in three levels: EC manages the collaboration on the European level and acts as a funding source, the member states ensure their DIH's competence contributes to the national digitalization strategy and regions where DIH's are operating, look after the financial resources and that DIH's have a strong presence especially among SMEs (European Commission, 2021).

4.1 What is a DIH?

Digital Innovation Hubs are, as the name suggests, ecosystems of organisations and experts around specific technological competence. Their objective is to provide especially SMEs a broad service portfolio that helps companies in their digital transformation (Virkkunen et al. 2019, p. 15). The service portfolio is built on four pillars (Figure 1): access to test new technologies, provide funding support, training services, and access to a network of experts. DIH's facilitate companies to test and develop new products, new technologies, and services before proceeding with final investments, develop the skills and competencies of employees, gain access to funding or new business opportunities and become part of a wider DIH network to access expertise. One aim of these hubs is also to safeguard that regional markets produce new, scalable solutions also for European industry, in addition to helping SMEs through an innovation process (Kalpaka, Sorvik J., Tassigiorgou 2018, p. 6-7)

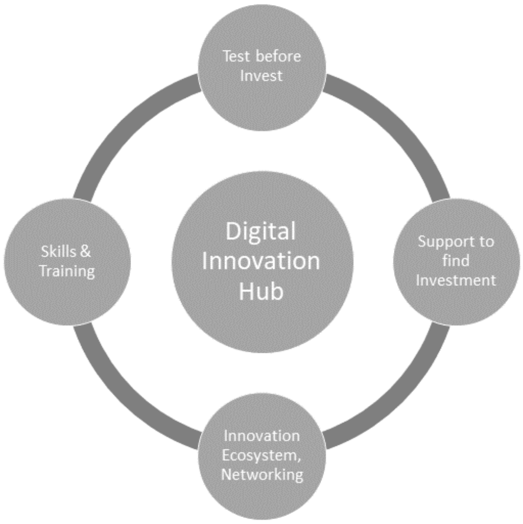


Figure 6 The service concept of a Digital Innovation Hub. Source: https://ec.europa.eu/digital-single-market/en/digital-innovation-hubs

The Digital Innovation Hub ecosystems are usually built on existing infrastructure and focused on specific technological competence within that region, for example, smart manufacturing in Tampere Region and the electronics industry in Oulu (Virkkunen, et al. 2019, p. 23). To be considered as a Digital Innovation Hub, the Commission's DIH online catalog has outlined a set of requirements in its disclaimer: A DIH should be non-profit and part of a regional, national or European policy initiative for digitizing industry. It must have a physical presence in the region and its services need to be communicated with examples of how they have helped a company in its digitalization efforts (European Commission, n.d.). Since its launch, around 672 DIH's around Europe have been listed to the DIH Catalogue, 19 from Finland as operational or in planning phase). Most Finnish DIH's are cross-disciplinary organisations that operate fairly autonomously in collaboration with research institutes or universities. DIH's are often built around experienced R&D competence centres that have been existing long before receiving this "DIH status" which has made the DIH concept unfamiliar to industry and other relevant networks (Virkkunen et al. 2019, p. 24).

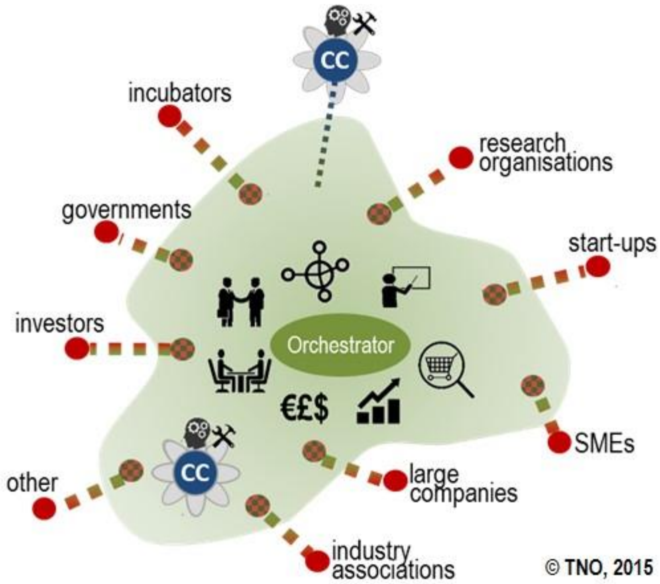
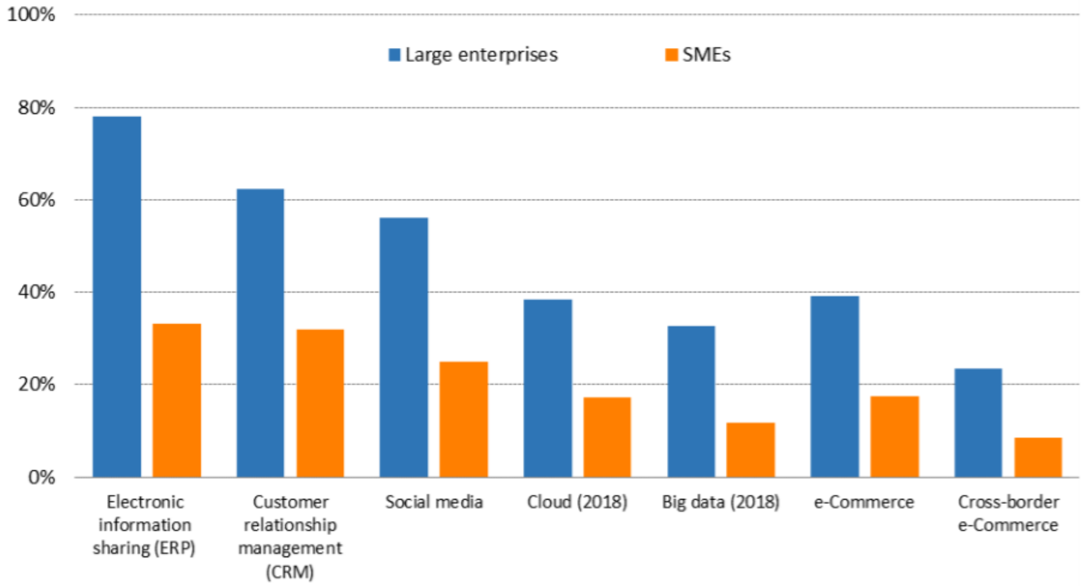


Figure 7 An example of a Digital Innovation Hubs ecosystem and its key stakeholders. Source: TNO 2015

4.2 Digitalisation overview among SMEs

In a report by PWC Global Digital Operations Survey 2018 over 1,100 global manufacturing CEOs were interviewed on their views on digitalization. The result indicated that Asian companies are leading in digital technologies whereas EMEA (Europe, Middle East, and Africa) are severely lagging with 5 percent implementation. Those Asian manufacturers that have implemented digital technologies expect to see over a 15% increase in revenue over five years, causing digitalisation to result in a significant productivity boost (PWC report 2018 p. 44; p. 7). A report by Boston Consulting Group (2015) estimated that by investing in new technologies German manufacturing industry alone would be able to increase overall revenue growth by €30 billion with new, efficient technologies. In Europe today, less than 20% of European SMEs are highly digitized according to the Digital Economy and Society Index 2020.

Figure 8 Adoption of digital technologies (% entreprises), 2019



Source: Eurostat, Community survey on ICT usage and e-commerce in enterprises.

Figure 8 European SMEs lag behind in adopting Digital technologies. Source: Digital Economy and Society Index (DESI) 2020

A report done by Commissions' Digital Roundtable working group (2017) listed some of the reasons industry managers see as barriers when considering to invest in new technologies: Trusting new technologies and assessing their return on investment (ROI) with digital innovations is challenging. Also, uncertainty about how well new technologies are compatible with existing systems and becoming dependent on one provider was mentioned. As new emerging technologies are entering the market fast, companies need to test and validate which investment decisions to take (p.13).

4.3 **Next steps: The Digital Europe Programme 2021-2027**

The next funding programme, Digital Europe Programme, the Digital Innovation Hub network will be closely coordinated with member states and governments to build a European level network, European Digital Innovation Hubs (EDIH). In addition, the EU has reserved a significant budget of 97.9 billion EUR for the Horizon Europe programme of Research and Innovation, from which DIH's are funded. This increase will mean more resources for DIH's to develop their communication and marketing efforts to raise awareness of their services towards companies (Georgescu, Avasilcai, Peter 2021).

In the future, the process for becoming a European-level DIH requires an application process. Each member state selects and nominates national DIH's to be accepted in the Open Call for becoming an EDIH. By including governmental bodies in this selection process, the EDIH network will have a central role in serving the digitalisation of European businesses especially in the fields of Artificial Intelligence, High-Performance Computing (HPC), and Cybersecurity with an annual estimated budget of €1-2 million per EDIH until 2027 (European Commission 2020 p.16).

Rissola & Sörvik (2018) stress that the DIH's role is to communicate the relevant services and benefits to the SMEs and industry to support their digitalisation efforts. The core strategy is having in-house expertise to address and identify the business needs of SMEs and raise awareness about the DIH. The majority of SMEs are lagging behind in their digitalisation efforts, so the value propositions need to be communicated engagingly and in a way that resonates with companies (Rissola & Sörvik, 2018, p.17).

As the Commission is planning to allocate more funds for DIHs in the future, improving marketing and branding of services and delivering inspiring success stories to attract SMEs towards their services will require DIH's develop their communication strategies. However, as DIH's are ecosystems of multiple organisations that operate on non-profit basis, building a coherent or effective brand may be challenging. Turning the focus on the organisational identity using VCI model could help assess how DIH managers and employees are communicating "this is who we are" towards the customers, and how well this message is reflected through the image they have.

5 THE FINDINGS

This chapter focuses on some of the questions that were highlighted and produced comparable data between the board, employees, and SME representatives. The data is structured under three headlines according to the VCI model.

5.1.1 The Strategic findings (Vision)

In the beginning, the Board members were asked if HUB1 has a vision and whether this is actively communicated: All participants were aligned that a vision exists, and it is actively communicated to stakeholders on different occasions, e.g. in events and seminars. Following this, the board was also asked to describe the purpose of HUB1 : The majority of the responses reflected similar ideas (although the use of words were different), of its purpose, which is to enable the industrialisation and commercialisation of new technology and its applications:

> *« To promote printed electronics and help the commercialization of it » (Board member)*

The vision and purpose of HUB1 echoed similar responses amongst employees who described the main purpose of HUB1 being an accelerator of industrialization and commercialization of printed electronic applications, but compared to the Board, some employees also raised the importance of facilitating a vibrant network around printed electronics, knowledge-sharing and serving of companies. The employees also agreed that vision exists and it is communicated. This reveals some misalignment between employees and the board. The purpose for some employees is manifested in a concrete way, whereas for the board the purpose is linkedin with a higher level strategic objective.

Group 2 was also asked to describe what initially attracted them to HUB1. From their responses, the connection between personal motivation and HUB1 purpose was clear: Employees were motivated to develop new promising applications in this field, help companies launch new applications, and expand their current professional network. These motivations link closely to the purpose of HUB1, which suggests that employees' motivation to work for the organisation did not reveal any major disconnections.

« New more effective way to realize products. If effectively adapted first in Finnish companies, it will give competitive edge to Finnish Industry globally « (employee)

The board and employees were asked to describe the values of HUB1. In both groups, different wording and adjectives were used, which indicated that common values are not clearly defined internally. What was interesting to discover was that the employees used the attribute *Credibility* several times, but from the Boards answers, it was challenging to identify recurring themes or wording. As the employees responded individually to the questionnaire, the organic reoccurrence of the word credibility could be interpreted as being an authentic, important ethical principle that is shared amongst the employees. When compared to the Boards answers, various attributes such as expertise, community and togetherness, innovation, specific technologies, and expertise were mentioned. Also, how all respondents understand the term *value* cannot be verified.

The SMEs were asked what originally convinced them to join HUB1. Two aspects were raised: Having access to their network and R&D infrastructure to scale up production. Also, the SMEs were asked if they had any misconceptions what HUB1 does, and majority stated no major misconceptions occurred. Another issue raised was the value of having access to HUB1 network and that it operates on an international level. The motivation to join, and what the companies envision as the purpose of HUB1 was similar to employees' statements, but with more emphasis on the Research & Development infrastructure and the international appeal of the network. This could be interpreted as an alignment with the Boards and Employees answers or at least suggests no dramatic disconnections occur either.

"HUB1 is a cluster of companies centered upon printed intelligence that provides possibilities to network and collaborate in R&D&I"

When asked from Group 3 (SMEs) how they would describe HUB1, their views were resonating with the Boards' vision and employees views on the importance of the network: The SMEs described HUB1 being a network dedicated to commercializing printed electronics solutions, helping companies to scale up in collaboration with experts. This could be interpreted as an alignment on the purpose of HUB1, that supports both boards and employees answers. The vision, and purpose did not reveal any significant disconnections, and that internal groups were aligned that HUB1 communicates its vision to outsiders.

5.1.2 Services (Image)

In the VCI model SMEs are regarded as external stakeholders who can provide insights to the « image » they associate with the organisation, what it promises to deliver. To examine this, it is important to compare the boards, SMEs and employees views of the current service portfolio and their marketing as they are important contributors to the image.

The board mentioned the strengths in current services are the Pilot environments that enable rapid prototyping and manufacturing processes, secondly the events and the knowledge-exchange that takes between HUB1 stakeholders. The employees stated the strongest performing services for companies are the industry cluster events, webinars, and trainings. Also, the EU-funded project preparations were seen as a valuable service. According to the employee's responses, companies usually seek three things from HUB1: right contacts from the network, R&D support for piloting, development of manufacturing processes, and support in creating the right value chains for them. The companies see that the main strengths of HUB1 services are linked with the network and in the collaborative spirit: especially the events were described as having a warm atmosphere, which makes face-to-face discussions an effective way to build relationships. What makes HUB1s' services unique for companies are linked with the service level and the transparency and collaborative spirit of the network collaboration, the unique pilot environment, and the engaging events

"I think the true willingness to help companies, so HUB1 does not exist because of HUB1 itself but because of the companies." (company)

The weaknesses in services by the Board were listed in Design, Mass production, and inability to offer turn-key solutions for companies. According to the employees, the weaknesses in services were the pricing of research projects and shortcomings in some of the prototyping capabilities. For the companies the weaknesses were linked with the physical location of HUB1 and the excessive promotion of the region. Due to the-

Covid19 pandemic the lack of physical meetings was seen as challenging for networking. Also, the lack of an existing manufacturing industry around HUB1 was seen as a weakness.

The board was asked how HUB1 should better respond to company needs in the future. According to them, companies would need more support throughout the entire value chain, more end-users should be included in the network and more focus could be directed to advanced manufacturing. Also investing in scale-up facilities was seen as important. The employees stated that HUB1 should explore other industry sectors e.g. food safety, medical and well-being, construction, and space-saving solutions. Also, multidisciplinary expertise should be offered for companies and granting an open-door policy for rapid prototyping. Companies were asked what technologies they seem promising for the future and what HUB1 services would be of interest. Technological aspects such as Artificial Intelligence and mass production were mentioned. One SME respondent repeated what was mentioned on the board, that HUB1 should bring value chain operators together and engage more end-users to the network. Also, company visits to large corporations would be beneficial for member companies. All in all, the companies confirmed their business needs are well understood at HUB1, and that those who had used the piloting facilities were content with their performance but more business expertise would be welcomed within the network.

When asked about the marketing of services, the Board saw the current marketing efforts are aligned with the strategy, but more attention should be paid to digital marketing and sharing high-profile applications in media to help increase visibility. One employee said that the most effective way of acquiring new members is through physical face-to-face meetings, HUB1s' events and relying on good personal contacts, although the hit-rate was considered 'labor intensive' since identifying motivated companies takes time. The goal is to offer new members the right value-chain and oversee companies' competitors are not 'recruited' while trying to keep the industry cluster membership manageable (around 50 companies). The company respondents confirmed that the first contacts to HUB1 happened through face-to-face meetings with founders and through discussions with other companies.

According to employees, HUB1s' external communication is targeted and profiled especially towards professionals in companies, not for the general public. The messages are mainly about HUB1s' activities targeted at the cluster members. Some companies stated that HUB1s content is heavily focused on event promotion. However, the events, online meetings, and webinars are the main channels companies rely on especially during the pandemic. Two reported relying on social media, especially Linkedin, although content publishing was seen as "seasonal" and that digital marketing channels overall could be more utilized at HUB1. Almost all company respondents agreed HUB1s' services are clearly communicated, especially in events and meetings. One respondent stated that the benefits of gaining access to the pilot facilities and being part of the network have always been communicated, but more concrete company examples would be welcomed. Only one respondent said it tends to take time to fully understand the actual benefits of the services.

The companies described the visual and verbal style of HUB1 as "good", "professional", "inspirational", and "not too formal or flashy". One respondent said this area requires refreshing and renewal, as the style has been the same for a long time. Content-wise companies welcome more success stories, investment news either from other member companies or on hardware, case videos, updates on projects where HUB1 is involved, and a more market-specific version of the HUB1 Handbook, an online publication describing printed and hybrid electronics components and processes.

The board sees that HUB1 has a good reputation among companies. The board was also asked to describe the ideal brand for HUB1, which resulted in various adjectives such as a « dynamic» , « concrete » and « fluent partner in printed electronics » :

« HUB1 is The Printed Intelligence HUB for Innovation & Industrialization - positive and professional spirit with colleagues working on the same industry » (board member)

As HUB1 services are promoted and offered by experts from different organisations, the Board said that through active communication and designing the service portfolio in collaboration with companies, there is little risk for them being incoherently communicated. Also, one respondent saw that not all services need to be communicated to everyone :

« Not all stakeholders are familiar with all offerings. Better to look at need to basis and propose active support for stakeholders » (board member)

The employees themselves describe the HUB1 brand as being the leading industry cluster and enabler of commercialization in the field of Printed Electronics. The employees agreed HUB1 has a good reputation amongst companies and it is seen as a « reliable », « credible partner » « trusted » and a « global leader in the field of printed electronics ». According to employees the most common misconceptions companies may have about HUB1 is, that it's a commercial company, an entity that grants funding, or it is synonymous with FOUNDER1. Majority of the companies did not remember having any misconceptions about HUB1 except for one respondent who originally thought it was synonymous with FOUNDER1.

The employees stated there is practically little control over how coherent customer experiences may be at different pilot locations since they are operated by several people. However, this diversity did not seem to an issue. The facilities are open to all members, and through an active feedback loop between employees and companies, any potential issues would be quickly noticed and mended. Companies supported this view and even stated this kind of organisational diversity was a positive thing and not affecting the « customer experience » in a negative way. One member stated sometimes the service level is slow but agreed that this is organisation-dependent. The feedback loop between HUB1 and companies was seen as active, something that was seen as increasing lately. One SME respondent stated that the majority of the communication still culminated in one person at HUB1.

5.1.3 Culture

The last section focused on HUB1's work culture; the way of working and the management style. The data addressed in this chapter attempts to highlight aspects to describe « who we are » and follow the VCI model definition of culture (values, beliefs, and basic assumptions that manifest in the ways the target group thinks and works).

The board was asked how they ensure all members are engaged and committed to the common strategic goals. Through active internal communication, sharing concrete success stories and just « doing the daily work around projects » were seen important. Regarding the physical work environment, all HUB1 employees work in their separate facilities and rely on their own IT infrastructure, so HUB1 team members do not all share common tools or office premises.

One question addressed whether the Board or employees organise any informal gatherings, for example office Christmas parties. Such events were not seen as important according to the Board nor the employees. All resources go into organising HUB1 official events and for the benefit of the network.

When asked whether workplace satisfaction is monitored, the board stated that no internal work satisfaction has been monitored and that the feedback is focused more on companies. Both the board and employees are satisfied with the current organisational structure. The board was also asked what areas they think should be improved to make HUB1 a better place to work: More time should be allocated developing HUB1, widening the company contacts, and networking with other research institutes were mentioned. Employees did not list any concrete ideas to this question. As HUB1 is a network of people with diverse organisational backgrounds, both the Board and employees were asked to describe HUB1 work culture. Some of the board respondents stated that HUB1-specific « culture » is not needed, and that all is required is an « open mind » and that the daily work does not require a common culture.

"There is a HUB1 way of working and culture with very positive attitude - it is a "family" (board member)

The word 'family' reoccurred by one company respondent when they were asked to describe the atmosphere at HUB1 events; they were described as « intimate » and « warm « which suggest especially the events have a positive image and good reputation.

"Mostly we feel that we are part of a family" (company)

According to the employees several described HUB1 culture as diverse as it brings together experts from different organisations. One employee stated that perhaps the culture holds nothing unique except efficiency. Diversity was seen as a positive by one respondent:

"Community has different focus points for founding members, which makes it possible to have complementing elements and growths for everyone."(employee)

The employees stated that what makes the HUB1 community unique is the successful integration of people who all work in separate "home organizations", and being able to create a climate of openness and efficiency. Employees stated their roles and responsibilities are clear, and their work contributes to the strategic objectives and are measured consistently. Employees described the management style « non-hierarchical », « human-centric », « self-operating » and « open ». The decision-making process was described as democratic and inclusive.

Companies described the management culture as being « open », « collaborative » and « tries to take as many opinions into account as possible », One respondent described the culture as « typically nordic » referring to managerial ideas being executed every 5 years. One company respondent added that the managerial culture could be more « business-oriented » and adding for example design thinking to the current style, which is focused on technological competence, would be welcomed. Two respondents stated the leadership culminates to the CEO and that most of the communication goes through him.

Companies were also asked to describe the HUB1 culture in general, which raised interesting views: One respondent continued that although the level of expertise is very high, the level of service is not always fast-paced due to bureaucracy and at times, lacks a « sense of urgency ». Also, the way of working was described as institutional and 'long-term' orientated when compared to work culture in the startup world where the pace is much faster. The work culture was described as having shifted « from research-orientated towards results-orientated ». Also, one respondent stated that the overall work culture tends to be personified around the CEO, and perhaps having « a core team » would be better. The companies stated that they usually communicate with one or two people from HUB1.

The board was asked what key competencies or resources are needed in the next five years, the board listed mainly various technological competence areas in, e.g. advanced manufacturing or cloud computing. Also ensuring R&D funding, open manufacturing fab (fabrication laboratory), enthusiastic people, and the need for more success stories were mentioned as key resources. The last question that was addressed to the company representatives if they would recommend HUB1 to other companies and all responded yes.

6 IDENTIFYING POTENTIAL GAPS

In the previous chapter, the participants answers were grouped under three themes : vision, services and culture. To proceed with the VCI gap analysis, Hatch & Schultz (2008) original model includes guiding questions to help auditors to compare the data (Figure 10). The VCI models' original questions were reformatted to match HUB1 context.

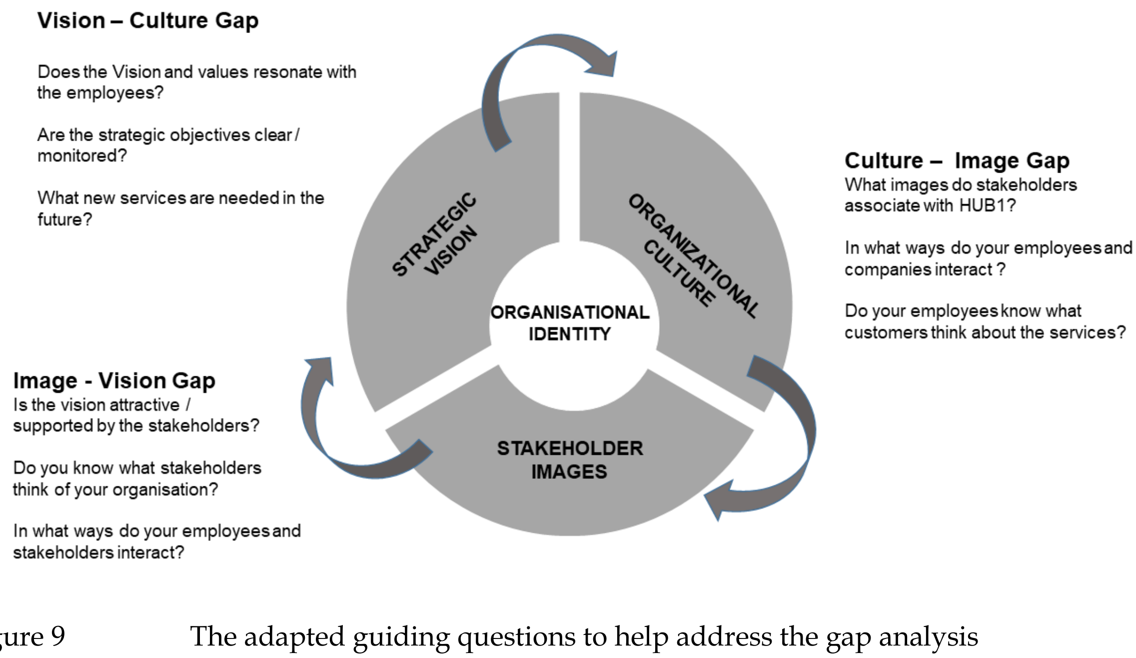


Figure 9 The adapted guiding questions to help address the gap analysis

6.1.1 Vision - Culture Gap

The management is responsible for steering the vision and ensuring the organisations strategic objectives support these visions. The misalignment takes place when employees are not either familiar or on board with this vision, nor do not understand how their role contributes to the strategic objectives. Hatch and Schultz (2001) suggest that misalignments happen when a vision is too ambitious and regarded merely as rhetorical instead of being manifested "in real life". The symptoms may include the resistance of change and cynical attitudes towards strategy and vision (p. 4). To examine the potential gaps between the vision and culture, the following guiding questions were addressed: Does the Vision and values resonate with the employees? Are the strategic objectives clear / monitored and what new services are needed in the future?

The first alignment gap analysis focuses on the vision, values and purpose of HUB1. It seems both the Board and employees are aligned on HUB1's vision and that this is jointly and actively communicated to stakeholders, which could indicate the vision, is coherently communicated externally. The inconsistencies occurred when participants were asked to describe what is the purpose of HUB1: The employees emphasized the purpose is linked to the network and serving companies needs, whereas the board described the purpose more strategically, to industrialise and help commercialise new applications. This might be linked to the respondents' work role n the HUB1 : employees who manage the operations and SME relations, the « purpose » may be manifested through these network activities, whereas managers link purpose to less concrete strategic objectives.

The second issue related to shared values: The board said there is no need to define 'corporate values ' for HUB1 as they were something that already exists within the community. One employee shared this view, stating values are internally formulated and already there, despite who the employer may be. Both employees and the Board were asked to describe the values they associate with HUB1 and the people. Interestingly the word *credibility* was used by the employees a few times whereas the boards' answers did not result in this kind of recurrence of adjectives.

The employees confirmed their roles, responsibilities and strategic objectives are clearly communicated and these objectives are consistently monitored. Both groups were satisfied with the current organizational structure and described the management culture as non-hierarchical and open. Both the board and employees were asked how they would make HUB1 a better place to work, which resulted in more input from the board whereas the employees did not list any areas for improvement.

Both employees and the Board considered other DIH's or similar organisations as their « competitors » as they also compete for EU funding. The strategic benefits of being part of an international DIH network were seen as important for gaining international visibility and through that, possibly funneling more project funding and establishing strategic partnerships.

The main strengths of current services were the pilot environment services that enable prototyping, the knowledge-sharing, physical events, and project preparations were seen as a valuable service. The employees stated the strongest performing services are the industry cluster meetings, webinars, seminars, and activities around education. The board saw the weaknesses lay in Design and Mass production expertise, and projects that are often predefined in Horizon2020 agenda, and that resourcing is linked often with project funding. The weaknesses according to employees were the high price-level of direct research projects and lack of suitable prototyping capability, and also the presentation of project-related results that companies are not interested in.

To respond better to company needs, the board sees advanced manufacturing as a promising area, and that companies should be supported throughout the whole product development value chain, and HUB1 could invest in scale-up facilities to speed up industrialization. Also having more success stories and including more end-users to the network were mentioned. According to the employees, HUB1 should explore other industry sectors such as food safety, medical and well-being, construction, Energy, Vehicle, Light and space saving solutions. Also, ensuring HUB1 offers multidisciplinary expertise for companies and open-door type of facility service to speed prototyping.

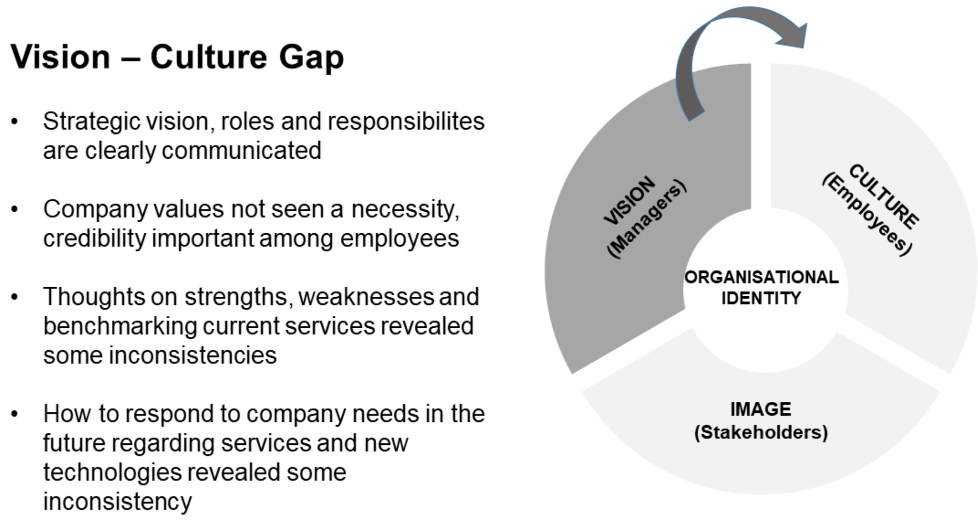


Figure 10 Summary of the Vision-Culture Gap

6.1.2 Culture - Image Gap

The relationship between the organisational culture and image is the relationship between customers (in this case SMEs) and the employees. Hatch and Schultz state that when these two are aligned, the customers understand what the organisation stands for and promises to deliver its promises. The organisational culture plays an important part in delivering this customer experience. Delivering and maintaining a positive image and customer experience is crucial as reputation in the age of social media and word-of-mouth can undo the work quickly (p. 5). To analyse the potential gaps between culture and image, this part examines data from both SMEs and employees : What images do companies associate with HUB1? In what ways do employees and companies interact and do employees know what customers think about HUB1s' services?

The employees describe HUB1 unique as it has successfully integrated people with different "home organizations", and being able to create a climate of openness and efficiency. The management culture is described as non-hierarchical, human-centric, open and the decision-making process as democratic and inclusive. The companies used similar descriptions and saw the organisational diversity did not play a significant role in the overall customer experience. Companies however welcomed more « business-oriented » and multidisciplinary expertise to the network, for example design thinking to complement the technological competence. The level of expertise according to companies is very high and is very telling of HUB1's professional image, but the level of service was critiqued lacking a « sense of urgency » and being bureaucratic. Also the way of working was described institutional and suitable for « long-term» partnership and lately, the way of working has shifted « from research-orientated towards results-orientated ». Company respondents replied their business needs were well understood.

Employees see that customer acquisition is labor intensive and hit rate is rather low, but the objective is to find « right » companies to the network. The communication seems to be built on good relationships that are strengthened in the cluster meetings and targeted serving the community of professionals. The companies agreed that HUB1s external communication is heavily focused on events and recurring newsletters, but digital marketing channels could be utilized more. Although HUB1s' services are communicated, more concrete company examples would be welcomed to better understand the benefits and results of HUB1 services offer. Content-wise companies listed news on investment either from other member companies or on hardware, case videos, updates on projects where HUB1 is involved and a market-specific version of the HUB1 Handbook, an online publication describing printed and hybrid electronics components and processes.

The main strengths of HUB1 according to SMEs were the network and the collaborative spirit it has, especially at events and meetings, that are described as exceptionally warm, intimate and having a family-like atmosphere. Overall the work culture is personified around the current CEO, and that it might be good and clearer if there was a smaller core team representing HUB1.

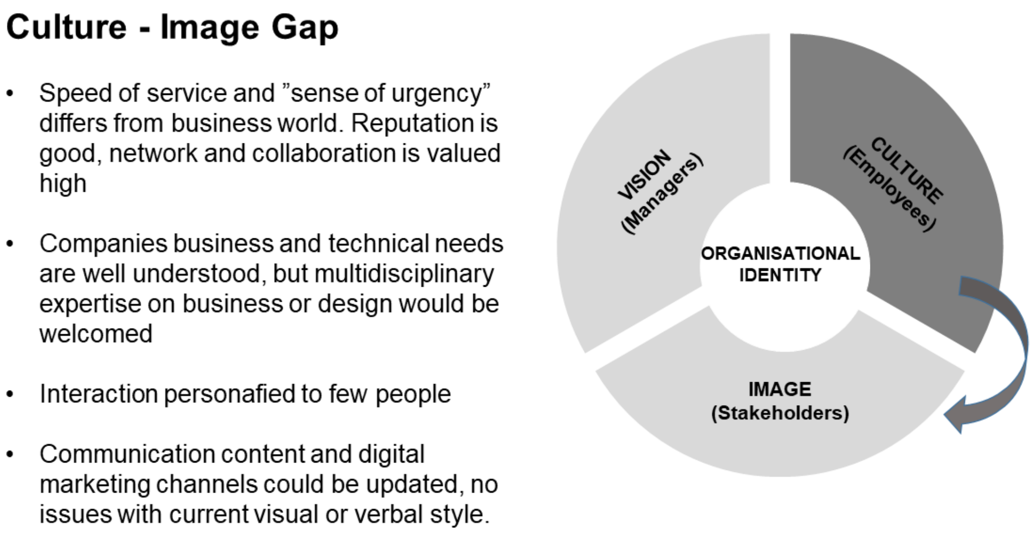


Figure 11 Summary of the Culture - Image Gap

6.1.3 Image - Vision Gap

The final gap considers the companies image and the management's strategy, more precisely on examining the relationship between strategic visions and how they are in tune with SMEs images and needs from the organisation. A misalignment between managements vision will not be successful as it fails to respond to the actual needs of its stakeholders (Hatch & Schultz, 2001, p.6). To analyse the potential gaps between stakeholder image and vision, the following guiding questions are addressed: Is the vision attractive or supported by the stakeholders? Do you know what stakeholders think of your organisation and services?

The board sees the vision is actively communicated to external stakeholders, but although companies were not directly asked about the vision statement, their description of HUB1s' reflects similar views regarding its purpose. When asked to describe what are the main benefits of HUB1 to them, all companies saw the network has brought the most value to them. The companies also see that HUB1 services, the benefits of the pilot facilities, and being part of the network are communicated but concrete company examples would be a welcomed addition. Similar feedback came from companies that would like to see more content on investments, success stories, and project updates. One issue that occurred was one of the Boards' vision related to bringing work opportunities and knowledge to HUB1 region: This was also seen as a weakness from the companies' perspective as location-wise the premises are geographically far away, and also that the communication at times focuses too much on promoting the HUB1 region. In general, the board saw HUB1 has a good reputation among companies and all companies would recommend HUB1 for other companies.

According to the board, the main strengths of the current services are the Pilot facilities for prototyping and manufacturing processes. The second key services were the innovation events and the knowledge-sharing that takes place within the network. The companies agreed that the main strengths of HUB1 services are the network and the collaboration: especially the events were described as having a warm atmosphere, which makes face-to-face discussions an effective way to build relationships. What makes HUB1s' services unique for companies are linked with the service level, the transparent way of working and network collaboration, also the unique pilot environment and the events. The weaknesses according to the Board were in Design, Mass production, inability to offer key-turn solutions, and project work was seen as weaknesses. For the companies, the weaknesses were linked with the physical location of HUB1 and the promotion of the region. Due to the pandemic, the lack of physical meetings were seen causing challenges in networking.

To better respond to companies' needs in the future, the Board listed different technological competencies, investments in scale-up facilities, and expanding the network to offer better support for product development. To respond to company needs in the future, the board said areas in advanced manufacturing, expanding network of companies supporting full application development and marketing. Also investing in scale-up facilities was seen as critical. For the companies, the needs are of course individual but e.g. mass manufacturing, AI, and digital fabrication methods were mentioned, but also more business expertise would be welcomed. By engaging end-users in the network, e.g. organising company visits to bigger companies would help bring visibility for the cluster. Companies however said they have received sufficient support and understanding from HUB1 regarding their business needs.

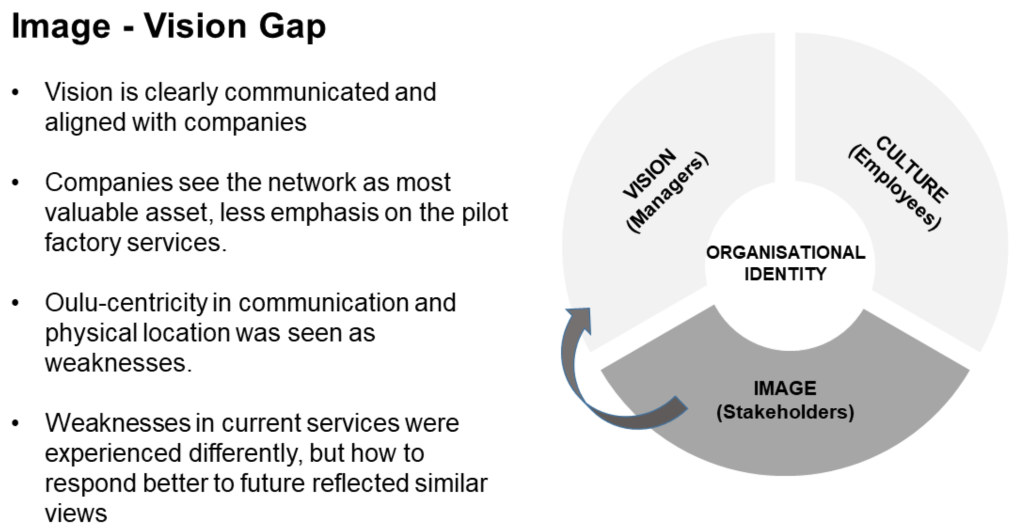


Figure 12 Summary of the Image-Vision Gap

6.2 Discussion of results

The VCI model evaluates organisational identity through the misalignment between managements' strategic vision, organisational culture, and external image. The relationships of these three, the potential gaps and alignments on HUB 1 services, work culture, and strategic issues are highlighted in the previous chapter. Some of these alignments and misalignments concerning organisational identity will be discussed in this chapter.

The relationship between vision and culture is reflected how well the strategic visions and values are aligned between the managers and the employees. As the management is responsible for steering the organization forward, the operational team must be engaged in this work. The close collaboration, the non-hierarchical management culture and the small size suggest that HUB1 people have a tight community internally and people do not operate in silos, despite almost all work for different home organisations. Hatch and Schultz suggest that especially in large organisations challenges occur when people work in silos and this can lead to organizational identity conversations with stakeholders being fragmented (Hatch & Schultz, 2008, p.78). The fact that SMEs, employees, and the Board seem to have a mutual understanding of what the organization offers and what it delivers, suggests that a shared idea of what the organization is, exists. It should be pointed out that company respondents (SMEs) that participated in the questionnaire have previous experience with HUB1 and are quite familiar with its offerings and the value it brings. The reason to stress this is that a contrary outcome (no previous experience with HUB1) would have been alarming if current customers cannot reason what the organization has to offer. The misalignment that was raised were the values between the board and employees. Both groups were asked to describe values they link with HUB1 and how they define the organisations purpose. This links to the strategic vision that is built on organisations core ideology, made of values and purpose (p. 68). Although the purpose was somewhat aligned, the different take on values was an interesting outcome for both employees and the board. Establishing a set of clear « corporate values « was not seen as important for the Board, whereas amongst the employees the term « credibility » occurred more than once. From a branding perspective, if certain types of values already exist organically, and are « embedded « in the organisational culture, this could offer a starting point on how to reinforce them and merging them as part of the brand strategy that expresses what is « unique about us. »

This leads to the service portfolio and the relationship between the organisational culture and image. Hatch and Schultz (2008) stress that organisational culture plays an important part in delivering a positive customer experience (p.4). According to the SMEs their business needs are well understood and the level of expertise they receive is high. What was interesting to see, was how the SMEs mentioned the network and especially the atmosphere at physical events that were described as being warm and family-like. This suggests that HUB1 has succeeded in creating and maintaining a positive image especially around its events, where members are willing to take the time to participate. Nurturing and managing a positive reputation affects the reputation of the organization, and affects loops back the « the self-esteem » of the organization and is likely to feed into the motivations of the culture-makers (Hatch & Schultz, 2008, p.266). This was resonated also among employees who also confirmed the network and the events were important for HUB1 community. When asked about what were the motivations to join this hub, the statements were connected to the overall vision and purpose of HUB1 ; to help commercialize new products and to bring real economic impact to the industry. This supports that people's motivation and organisations mission are aligned and thus strengthens the link between strategy and culture. When employees have an emotional connection to the organisation, they are likely to be motivated in delivering a positive brand experience to its stakeholders and most importantly, can help the organisation manage crises more effectively (Hatch & Schultz, 2008, p.266). One testimonial of this positive cultural experience and image that all SMEs stated they would recommend HUB1 to other companies as well.

Regarding the misalignments between culture and image, it was interesting to discover that HUB1 role has a unique position in the product development value chain. Its role is to help and facilitate companies with product testing together with experts, but at the same time it is not a corporation nor does it operate as a corporation as it is founded and managed by several organisations from academia. HUB1 value is on the expertise and the reputation of its network, which could be interpreted that the "way we do things" is more about establishing long-term partnerships rather than offering companies quick solutions to problems that require fast reaction time. The organisational culture of HUB1 should be reflected also in the founding organisations culture and how much flexibility is attached for those, as academic institutes and universities are usually bureaucratic structures. One suggestion would be further investigating the expectations and images of those companies that have no prior experience with HUB1 and to study what conceptions or expectations "outsiders" have on the service portfolio.

This leads to the final gap between the image and the strategic vision and assessing how well aligned the board's understanding of SMEs needs. The importance of alignment is based partially on how well the managers are in tune with the needs of its customers. The data indicated that the SMEs and employees tend to have a shared understanding of the value of the network whereas the Board and SMEs shared similar views on expanding the network with additional expertise (e.g. design and business-related). Hatch and Schultz (2008) stress that an effective brand is about having a vision that is complementary and resonating to outsiders' images and their needs. The strategic visions will not be useful unless they tap into what SMEs want from the company. What appears to support this is the active feedback loop between the SMEs that agreed that their feedback is collected actively, which the board confirmed. This could suggest that HUB1 is actively listening and engaging with the companies.

The connection between organisational identity is examined through the misalignments of the three dimensions, and that the process presented by Hatch and Schultz suggests that the more aligned these three dimensions are, the healthier the organisational identity is but aligning these three elements not a sequential process and the gap analyses should be done concurrently (Hatch, Schultz, 2008, p.4). This is also supported by academics Gonzales et.al (2014) that the concept of identity should be constantly evaluated and experimented with by members, which in return can help organisations members to adjust their expectations and actions better. (Gonzales-Miranda et. al, 2014, p. 134-135). As the VCI model examines the organisational identity through the inter-relations of culture, image, and vision, the approach is based on identifying problems as a diagnostical tool that has a strong managerial and strategic link. Perhaps by altering and adjusting the guiding questions, it could be used to diagnose organisational identity also from a traditional perspective that attempts to analyse what is central, distinctive, and enduring for the organisational identity. Also adapting the VCI framework to examine how organisational identity is formed and accepted in context to its mission might take the identity study more inclusive (Ashfort et. al., 1996, p.23). Researchers have pointed that the role of organizational culture is often discarded when examining organisational identity, whereas Hatch and Schultz argue that culture has a strong influence on the ways stakeholders and employees interact.

Another alternative would be to examine the results of this experiment would be to compare them to worst-case scenario. In the case of HUB1, if the SMEs would have not been able to describe coherently what the organisations value or purpose is, would have suggested a major disconnect in communication considering the SMEs are current members, or if the employees responses would have signaled lack of personal motivation and SMEs a great level of customer dissatisfaction. Such drastic examples were not apparent, but given the methodology of how the data was collected and compared, face-to-face interviews would allow the data interpretation to go even deeper.

7 CONCLUSION

To return to the research question "How to examine the organisational identity of a Digital Innovation Hub?", the answer is linked to chosen methodology, challenges interpreting the data and its meaning. This thesis has attempted to test a theory and loosely applying the thematic analysis process to conduct data analysis turned out to be a challenging task. The reliability of the data and analytical part of it is heavily dependent on the research design and how the data collection should be optimized against the existing VCI model that has inbuilt themes and suggested methods. In this case, the main challenges were in the cross-examination of data and not being able to gain a sufficient amount of understanding of how respondents *think and feel* about certain issues, as interpreting respondent's emotions or thoughts via written statements is challenging. Although the model appears to be a practical and straightforward assessment tool, the systematical and logical interpretation process would be helpful especially for those organisations that are planning to use this model for assessing either current brand alignment or wanting to conduct an internal audit on their organisational identity. The shortcomings of applying the model were done when designing the questions for the organisation, as the possible areas of concern were not previously known which resulted in the questionnaire being particularly vast. What the model suggests, it to compare responses from different groups with similar questions which will allow direct comparison of data between managers, employees, and stakeholders, from where lack of consistency will signal disconnect (Hatch and Schultz, 2001, p.6). This type of disconnection will most likely occur when data is collected through an open-ended questionnaire where there is room for misinterpretation. This validates the point of data collection and how to ensure participants understand and interpret a question the same way.

The second research question on whether this method can be useful to reveal misalignments between vision, culture and image to improve DIHs communication efforts, links to the previous question on credibility and richness of data. However, the model did manage to reveal both inconsistencies inside and between groups. This could suggest some of the questions were understood and interpreted in the same way, and some were not. What was encouraging to notice is that some alignments occurred organically: for example the value of credibility or further developing the brand of the events. The gap analysis revealed that there were disconnections on strengths and weaknesses of the service portfolio, but it is debatable whether this is due to the way data was collected and whether a quantitative method would have given more credible data. Also, the data that was collected from each group represents only a small portion of both the board and the company cluster. It would be recommended to collect some of the results (summaries of VCI models) and from that, create another, more carefully planned audit that would tap into the pain points or development areas that HUB1 sees and also use the more positive insights from the outcome to incorporate those in current communication strategy even more. Although the data analysis is questionable as it lifts single statements, perhaps the gap analysis outcomes give some ideas on the strengths and weaknesses for future strategic plans or communication efforts.

In the previous chapter both alignments and misalignments were presented, but what could be confirmed in contradiction to the second research question, is that surprisingly the VCI model managed to alignments both within groups and also between groups. From this perspective, although gaps occurred between the groups and within the groups, the model revealed its applicability to act as a diagnostical tool when assessing what areas might need to be further investigated. As a conclusion, these are the recommendations to ensure more successful auditing process for other novices:

1. The first step before proceeding with the audit would be to discuss with the DIH if there are any areas in their operations that require special attention. This helps to further focus and tailor the interview questions and to reveal the "right" issues instead of attempting to cover topics with a wider scope

2. Designing the data collection. Using a methodology consistently to conduct interviews, focus groups, or qualitative survey to ensure the data will be credible, comparable and rich.

3. Ensuring the assessment will be done continuously as all three sub-categories that are being assessed are constantly changing and thus, the identity is subject to change.

ideally, this tool will help to identify potential issues and thus help organisations to prepare and respond to crises in advance.

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