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Sustainability at stake: incorporating circular economy into an organization

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GM0861 Master Degree Project in Management

June 2021

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Abstract

Circular economy has been located as one solution to combat climate change, which puts large pressures on corporations. Earlier studies of circular economy have focused on *what* needs to be done but studies of *how* to incorporate it are scarce. This study addresses this gap and contributes to previous literature within the fields of circular economy and organizational studies. The aim is to examine how to incorporate circular economy into an organization, which might generate organizational change. A multinational consultancy firm has constituted the case study for the report, where interviews with respondents in three business areas have contributed to the majority of the data collection. Differences and similarities related to the incorporation of circular economy are visible between the business areas, which result in four conclusions. First, the concept of circular economy is incorporated into the organization through the process of translation among human and non-human actors. Second, social constellations, defined as communities of practice (CoP), have enabled the incorporation of circular economy as part of the translation process. Third, conclusions can be made regarding the importance of timing and context in relation to the translation process of incorporating circular economy. Fourth, the combination of bottom-up and top-down management approaches facilitates the incorporation of circular economy in the organization. The study shows how social group constellations, such as CoP, can affect organizational operations. Accordingly, the translation process, which occurs between human and non-human actors within CoP, becomes crucial for the networks' cumulative knowledge to be realized in the rest of the organization and its practices. Thanks to motivated individuals interacting in CoP through visualization tools, together with timing and management support, the idea of circular economy is translated and incorporated into realized changes.

Key words: Circular Economy, Translation, Communities of Practices, Change Management, Bottom-up, Top-down, Travels of Ideas, Actors, Social Constellations

INTRODUCTION

Humanity is facing its greatest challenge yet, the climate crisis, which calls for disruptive measures if climate targets are to be reached (United Nation Environment Program, 2021). In 2015, the Sustainable Development Goals were set by the United Nations, which serve as global guidelines in the quest to conquer climate change, global degradation and greenhouse gas emissions (United Nations, 2021). All modern societies must jointly undertake action to decrease greenhouse gas emissions. According to the Ellen MacArthur Foundation (2019), 45% of global emissions can be derived from materials and production. To conquer these emissions new production methods and altered resource extraction is necessary. One suggested solution to these challenges is the societal transformation towards a circular economy.

The European Commission introduced a circular action plan in 2015, which became realized in 2019 as one of the blocks in the European Green Deal, the new agenda for sustainable growth to reach the Sustainable Development Goals (European Commission, 2020). The plan announces initiatives along the entire life cycle of products by promoting a circular economy process that fosters sustainable consumption aiming to preserve resources in the economy as long as possible (European Commission, 2020). The common definition among scholars of a circular economy is the cyclical economic system, a flow model, different from the linear unsustainable “take-make-use-dump-model” (Korhonen, Honkasalo, & Seppälä 2018; Bocken, de Pauw, Bakker & van Der Grinten, 2016). Some European countries, including the Netherlands and Finland, quickly responded to the European Commission with defined strategies directed towards transforming the society into a circular economy already in 2016 (Ministry of Infrastructure and the Environment in the Netherlands, 2016; Sitra, 2016). The Swedish government (2021) completed its circular strategies in 2020, which was complemented with an action plan in 2021 to transform Sweden into a circular economy. Additionally, the European Commission has recently estimated that transitions towards a circular economy will constitute around 600 billion euros annual gains from the manufacturing sector in the EU, and a global economic benefit of 1000 billion US dollars thanks to new innovations and funding (Korhonen et al., 2018).

Although extensive potential benefits, transforming societies and businesses will pose challenges on companies as societies gradually transform into a more circular and sustainable condition (Korhonen et al., 2018; Stubbs & Cocklin, 2008; Bocken et al., 2016). However, some organizations have already recognized the need for a transformed attitude, business models and operations in relation to circular economy. Successful implementation of a sustainable business model includes established cultural and structural competencies in favor of sustainability but also the collaboration with external actors, such as key stakeholders (Stubbs & Cocklin, 2008). Stubbs and Cocklin (2008) mean that corporations, therefore, must acknowledge that they are a part of a bigger system connected to others. Previous research in the field of circular economy has provided us with a better understanding in some areas, but we still lack knowledge in others. Practical examples of how to implement circular economy in the corporation are scarce as studies have focused on what needs to be done, not how it can be done from an organizational perspective.

To fill this gap, we assume a change management approach to look at circular economy practices. We contribute to organizational studies by investigating how the idea of circular economy is incorporated in an organization and in internal networks. Within organizational studies, we make use of the translation process since it shines a light on the complex interaction among humans and non-human actors. Together, these actors constitute interdependent networks within and outside the organization. Additionally, we include the perspective of communities of practice (CoP). This theory combined with translation makes valuable contributions in understanding how ideas and knowledge are spread throughout organizations, which realize change in organizational practices. Making use of theories within translation and CoP, allow us to look at how actors within organizational communities translate ideas and let them travel throughout the organization. We argue that CoP can be enablers for stabilizing networks and ideas to become realized. In relation to the translation process of ideas, we also understand that different management approaches make valuable contributions to change.

We aim to examine how to incorporate circular economy in organizations, which might, or might not, generate change. This is achieved by studying managers and employees within a large multinational consulting firm. The firm is currently incorporating circular economy into defined concepts and practices, displaying various stages of organizational change within different business areas. The following report will contribute to literature regarding circular economy as it aims to explain how the concept can be incorporated. Moreover, contributions are made to literature within change management since the study intends to increase the understanding of processes of organizational change. The study is limited to a single case company, conducted as interactive research through an internship at the same case company. Conducting the case study during an internship has made us aware of critical aspects of confidentiality and subjectivity. However, this close interaction can increase validity and can be considered as an advantageous approach as explained by Svensson, Ellström and Brulin (2007).

Research question

How is the concept circular economy incorporated in an organization?

Structure of the report

The report is structured as follows. First, the theoretical framework is presented, which accounts for theories of change management, translation and CoP, necessary to analyze the compiled data. After follows the methodology, which defines the research process, the case, limitations and ethical aspects related to the study. In the fourth chapter, the empirical findings are accounted for, which displays the work related to circular economy within the case company. After follows a discussion, analyzing the empirical findings from perspectives presented in the theoretical section. Lastly, conclusions and recommendations for further research are presented.

THEORETICAL FRAMEWORK

As explained in the introduction, previous studies within circular economy have concentrated on the phenomenon from a *what*-perspective (Stubbs & Cocklin, 2008; Bocken et al., 2016; Korhonen et al., 2018). To explain and understand *how* the concept of circular economy can be incorporated, theories within organizational studies can provide a suitable framework. Thus, the theoretical section first accounts for theories within change management and the two orientations from which this field is developed. After follows elaborations of the translation process, which provide an understanding of how the incorporation of ideas, such as circular economy, occurs. Theories of Communities of Practices (CoP) are lastly included as they can provide a deeper understanding of the translation process necessary to incorporate circular economy within an organization.

Organizational change based two orientations

People take their realities for granted until the context changes and old practices are replaced by new ones, Czarniawska and Sevón (1996) argue. Czarniawska and Sevón (2005) imply that people observe change differently and experience their own illusion of stability. Stability itself, the authors argue, is produced by constant movement. Thus, deconstructing old, established norms might not be the effect of change but the change itself (Czarniawska & Sevón, 2005). As described by Stubbs and Cocklin (2008) and Bocken et al. (2016), transforming the society into a circular economy will put large pressures on corporations as they will have to change prior norms and convert from traditional linear business models to circular flow models. Converting to a circular economy requires new structures and practices, which might be challenging for some corporations (Stubbs & Cocklin, 2008). Accordingly, Czarniawska and Sevón (1996) consider change as “...the periods during which people begin questioning things that were previously taken for granted” (Czarniawska & Sevón, 1996, p.2). In line with their perspective on stability, Chia (2014) develops the argument by stating that organizations are stabilized patterns of relations shaped through endless change. However, in contrast to Czarniawska and Sevón (1996), Chia (2014) argues that change with such perspective, is not seen as a linear event of actions, but as a continuous phenomenon with an iterative and open-ended process of gradually aligned priorities. Further, studies of organizational change are, according to Czarniawska and Sevón (1996), generally based on ideas from two orientations: Institutionalism and Studies of Science and Technology, which will now be described briefly.

Czarniawska and Sevón (1996) argue that institutionalism defines institutions as collections of stable rules, roles and meanings taking place in organizations. As stability is emphasized as the norm, old and new institutional studies can be criticized for not addressing change, Czarniawska and Sevón (1996) claim. Change has been seen as an exception, not as the rule, which fails to explain the fact that people do change opinions and actions (Czarniawska & Sevón, 1996). This ambiguity of change is addressed by Scandinavian Institutionalism, which defines both change and stability as the norm of organizations where identities, rules and institutions are continuously constructed and deconstructed (Czarniawska & Sevón, 1996).

However, Czarniawska and Sevón (1996) argue that to understand change, another stream of organizational studies must be considered— studies of Science and Technology including the concept of translation. By considering Science and Technology studies, hard aspects including technologies, machines, etc., of organizing can be acknowledged (Czarniawska & Sevón, 1996). Coherently, Scandinavian Institutionalism studies also acknowledge the importance of the translation process as an important component of change management (Wæraas & Nielsen, 2016; Breese, Jenner, Serra, & Thorp, 2015). Translation is a concept found in several types of organizational studies, such as actor-network theory and knowledge based-theory and Scandinavian Institutionalism (Wæraas & Nielsen, 2016). However, Scandinavian Institutionalism is emphasized in this study since Wæraas and Nielsen (2016) argue that Scandinavian Institutionalism focuses on the circulation of ideas and is closely connected to change management models and practices. Through the combination of Scandinavian Institutionalism and Science and Technology studies, both hard and soft factors can be considered as well as human and non-human actors. These are regarded as essential aspects of change (Czarniawska & Sevón, 1996; Diedrich & Guzman, 2015), thus essential for understanding change in terms of circular economy.

Translating ideas into organizational practice

Czarniawska and Joerges (1996) seek to challenge conventional images of organizational change either seen as a sequence of planned actions or as a continuity of adaptations. Instead, they interpret change as a materialization of ideas that in some time and space are translated into objectified meanings, which in turn become new ideas. “Planned changes are often sets of ideas which never materialize; whereas materialized ideas go down like avalanches. [...] But where do they come from? Where will they go? How can we follow them? With what metaphors - or vehicles?” (Czarniawska & Joerges, 1996, p.19). The authors classify ideas as images relatable to pictures or sounds and can be materialized, turned into actions or objects, which cause change. Additionally, ideas take place through communication, and when repeated they travel, which requires both time and space. Through time and space, ideas become objects, pass the barriers of local time, enter trans local paths, embed into practice and eventually become institutionalized only to be repeated (Czarniawska & Joerges, 1996; Wæraas & Nielsen 2016). This can be the reason why some topics, such as the climate crisis, remain interesting longer than others. As Czarniawska and Joerges (1996) argue, the more dramatic a problem is, the longer it survives in trans local time and space. Similar to political news, the longer a problem remains in focus, the easier ideas can be translated, improving the chances of the ideas being realized and legitimized (Czarniawska & Joerges, 1996).

Czarniawska and Joerges (1996) argue that prior studies tend to imply that ideas travel from less satisfied to more satisfying environments. While this is defined as the diffusion model (the spread of ideas), the authors support Latour’s (1986) contrasting concept, defined as translation, where non-human and human actors through interactions let the idea drop, be adjusted, or rejected. This implies that a text can be the same but read in different ways, where the people as creators and users energize the idea every time it is being translated for their own

or someone else's use (Czarniawska & Joerges, 1996). Accordingly, Diedrich and Guzman (2015) explain that every situation is the result of ongoing translation. Translation has been proven important when realizing ideas, such as the study by Allen, Brigham, and Marshall (2018) about integrating sustainability as an essential part of operations and project designs. Also, Breese et al. (2015) conclude that management ideas must undergo translation to become practices, as an idea undergoes changes during its trajectories since it is affected by the translators. Further, Czarniawska and Sevón (2005) explain that recent organizational studies have shifted from focusing on the hard factors of change, such as the nature of technologies and machines, to more soft factors. This implies that people shape culture and organizational change seems to rely on symbols and metaphors. They further argue that the stronger associations among actors, the greater power in the whole network of actors since power is considered as an effect, not a cause. The actors who create the network can either be considered as micro-actors such as individuals and organizations, or macro-actors such as the market or society (Czarniawska & Sevón, 2005). As interactions among micro-actors stabilize, the networks of interactions can be perceived as a more powerful macro-actor (Czarniawska & Sevón, 1996; 2005). Therefore, to understand organizational change, the relationship between ideas, humans and objects is needed (Czarniawska & Joerges, 1996).

Parallels from the concept of translation can be drawn to other change management studies, where Chia (2014) and Thomas and Hardy (2011) emphasize how change is a result of several actors interacting. Thomas and Hardy (2011) specifically denote how change processes are only possible if all actors, on different levels within the organization are involved and integrated. Moreover, translation can be seen as hybrids between humans and non-humans networks (Czarniawska & Joerges, 1996; Allen et al., 2018). Thus, Allen et al. (2018) mean that more attention should be given to non-human actors. Tools or models visualize an idea that makes it material or tangible. Thus, tools facilitate the realization of the idea or concept. They constitute crucial parts in the translation process, making translation a hybrid between human and non-human actors (Czarniawska & Joerges, 1996; Allen et al., 2018). Accordingly, Diedrich and Guzman (2015) argue that change is initialized as a vague idea, which is only realized when actors are convinced of and enrolled in that idea through translation. The success of translation results in taken-for-granted practices and a stable network, or institutionalization, as mentioned by Czarniawska and Joerges (1996). Hence, unrealized change can be seen as ongoing translation, where actors have not been convinced of the idea yet (Diedrich & Guzman, 2015). Stabilizing ideas as part of the daily work and taken-for-granted norms through translation, realizes change (Diedrich & Guzman, 2015). To become institutionalized, Czarniawska and Joerges (1996) argue that ideas need to be presented as natural. For instance, by showing their tangibility, which further implies that success depends on the presentation of the ideas, namely the process of translation. The authors mean that the simplest way to objectify, translate an idea, is to make them visible through for instance labels, graphic design and metaphors (Czarniawska & Joerges, 1996).

Coherent with the ideas of the translation process, Thomas and Hardy (2011) mean that change is generated by power dynamics among actors within a complex network of actions. Change

should not be considered as a top-down approach highlighted by earlier studies of organizational change, like Kotter (1995), but as an emergent bottom-up approach involving an iterative process of enactment (Thomas & Hardy, 2011). Chia (2014) agrees with Thomas and Hardy's (2011) reasoning and implies that successful change achievements should not be connected to one individual or a planned top-down initiative. Instead, he calls for cautious management of the cumulative effects from a few incremental events, organizational members, learning, adjusting and coping with ever-changing situations, that gradually reach the vision. Change can thus be contributions of unnamed, ordinary individuals in the organization that produces extraordinary outcomes (Chia, 2014). This reasoning of organizational change coheres with Czarniawska and Joerges's (1996) criticism of planned change that never materializes. It also coheres with Diedrich and Guzman's (2015) arguments that efforts should not be placed on constructing a perfect plan for change, but on the enrollment and the organization of actors. This criticism of planned change leads us to the suggestion by Czarniawska and Joerges (1996) that shows how ideas can be realized through social constellations. Groups can create new structures through taken-for-granted processes or legitimized rituals, generated by the group's power constellations or allies that anchor ideas and decisions into practices (Czarniawska & Joerges, 1996). When considering such social groups, parallels can be drawn to CoP, which can serve as important explanations for organizational change (Wenger & Snyder, 2000). As Fox (2000) argues, a strong contribution to organizational studies is to understand the relation between CoP, actors and networks, where organizational members learn by participating in shared activities. Additionally, enforcing the role of translation within CoP, Pyrko, Dörfler and Eden (2019) explain how early studies of CoP especially have concentrated on clarifying how activities, such as learning, in CoP, can be translated into practice. Therefore, theories within these areas become valuable complements to each other as they share a significant interest in concrete practices (Fox, 2000). Thus, the following section will elaborate on the relevance of understanding CoP and the activities within them.

Organizational change translated through CoP

CoP can be explained as valuable platforms for change where people exchange knowledge, experiences and ideas regarding certain topics within or across business units, in or across organizations (Wenger & Snyder, 2000; Esnault, Zeiliger & Vermeulin, 2006; Fox, 2000; Schmitz Weiss & Domingo, 2010; Pyrko et al., 2019; Rennstam & Kärreman, 2020). The exchange process of ideas within these communities resembles the process of translation (Czarniawska & Joerges, 1996; Esnault et al., 2006) as CoP stretch through different stakeholders where translation of learnings occurs and shapes the organization (Fox, 2000). For example, tools for knowledge sharing are essential for aligning practices within CoP, which can generate change (Esnault et al., 2006). Thus, when understanding the process of how change is generated, translation serves a purpose (Fox, 2000; Pyrko et al., 2019). Moreover, Pyrko, Dörfler and Eden (2017) introduce a knowledge process of thinking together, which is crucial for the existence of CoP. They imply that when peoples' intrinsic understandings are linked, they can guide each other through their mutual conception and share tacit knowledge.

In accordance with other change management studies (Chia 2014; Thomas & Hardy, 2011), Schmitz Weiss and Domingo (2010) argue that change should be regarded as a natural phenomenon realized through everyday action allowed through small injections, which occurs in CoP, not as a disruptive event in organizations. Wenger and Snyder (2000) as well as Rennstam and Kärreman (2020), mean that CoP can facilitate strategic change since they consist of people of similar expertise, connecting over shared interests, exchanging knowledge in informal groups. Consequently, CoP often occur in organizations relying on knowledge-intensive operations (Wenger & Snyder, 2000; Rennstam & Kärreman, 2020). Within the CoP agenda, goals and leadership are organized and members participate by choice, reinforcing the informal structure of the community (Wenger & Snyder, 2000). As knowledge is exchanged and generated, CoP maintain and reinvent themselves. Further, while highlighting the informal character of CoP, Wenger and Snyder (2000) argue that CoP can benefit from managerial or executive intervention by acknowledging and facilitating the conditions (time, resources, etc.). For CoP to emerge and sustain, managers can make CoP thrive and by extension contribute to the strategic work and performance of the organization (Wenger & Snyder, 2000). By sharing ideas and knowledge, new ways of approaching topics are formed, which can be expressed as new strategies, new businesses, problem-solving or spread of best practices, etc. (Wenger & Snyder, 2000). However, Rennstam and Kärreman (2020) call for cautious management. Accordingly, managers have little understanding of the internal practices of CoP, as they are not part of the community. The members of the CoP have a superior understanding of its practices, knowledge and methods and thus know its capacity best (Rennstam & Kärreman, 2020). Moreover, Pyrko et al. (2017) also suggest that CoP should be cultivated and not managed, since the learning process in CoP is about thinking together, which cannot be imposed by managers.

Elaborating on CoP, Brown and Duguid (1991) argue that the connections between learning and innovation in the context of CoP are apparent when reassessing organizational work. They mean, when these aspects of learning, innovation and work are unified, it should be possible to reorganize and renew organizations to improve them. Developing the learning perspective, the authors also argue that it is necessary to focus on the change and formulation of communities in which the work takes place. From a practice perspective, they view learning as a bridge between innovation and work. This can be important insights when for example incorporating circular economy into an organization. Corresponding to the different non-human and human actors in the translation process to realize change (Czarniawska & Joerges, 1996; Diedrich & Guzman, 2015), Brown and Duguid (1991) also denote the technological support that can facilitate work and support narrative exchanges. Accordingly, as mentioned above, Esnault et al. (2006) also emphasize the tools needed in CoP. Similar to Brown and Duguid (1991) Esnault et al. (2006) highlight how the technological objects can respond to specific usages and demands in a CoP to share the common learnings. Esnault et al. (2006) also create their own approach, a participatory design, to denote the different interests of the participants in the CoP and how all their influences, together with relevant tools, fit together. They argue that the CoP-networks become aligned through a translation process, coherent with the reasoning of Czarniawska and Joerges (1996), where actors move between different interests and

translations. To understand the way information travels and is constructed in an organization, Brown and Duguid (1991) argue that it is necessary to understand the different internal communities and the power among them. Further, Wenger and Snyder (2000) mean that the most beneficial way to access and exploit the CoP is to listen to the members as they, through their immense knowledge, may interpret, formulate or simplify complex issues or activities. By internalizing CoP, the performance of organizations within knowledge-intensive industries will increase, Wenger and Snyder (2000) conclude. Brown and Duguid (1991) also imply that a synergistic collaboration among learners, innovators and workers as well as a unified understanding of innovation, learning and working seem to be highly beneficial for organizations. Therefore, they argue that these three aspects should be closely linked, both in theory and in practice.

Based on the above constructed theoretical framework, we understand that organizational change can be explained by theories within organizational studies including translation and CoP. However, what we would like to know is how these theoretical orientations combined can add to organizational practices. With a combined perspective from the viewpoint of translation and CoP, valuable contributions can be made. It can help us understand how the concept of circular economy is incorporated into an organization since it can explain similar or different practices and interactions among organizational actors.

METHODOLOGY OF THE STUDY

The following chapter displays the methodology of the study starting with the research design, followed by the setting of the case study and methods of the data collection and the analysis. Finally, a section about ethical reflections and limitations is presented.

Research design

The research question regarding how the concept of circular economy is incorporated in an organization is answered through a qualitative research study with the aim to understand how such change can be done. A qualitative research approach is appropriate according to prior literature (Hinings, 1997; Silverman, 2017), as we want to investigate *how* a certain phenomenon is perceived and realized within social settings and want to obtain in-depth information. In this study, the social setting is an organization where we investigate *how* the phenomenon circular economy is incorporated, which justifies the choice of a qualitative research method. Moreover, the study is conducted as a single case study, during an internship, where we aim to understand how a specific organizational change, i.e., circular economy, is incorporated into an organization. A case study is suitable as a research method as it can allow for deep insight into phenomenon in one context, which later can be used to draw general insights applicable to other contexts (Flyvberg, 2006; Silverman, 2017). Although the nature of case studies has been the target of extensive criticism, it has also received recognition as a credible research method as general conclusions can be drawn (Flyvberg, 2006). To process the empirical findings, we have made use of a grounded theory approach. The choice of

grounded theory was based on the reasoning of Silverman (2017) and Martin and Turner, (1986) who state that grounded theory is suitable when conducting qualitative research. It has allowed us to process extensive amounts of data and locate different patterns in the empirical findings, in line with the reasoning of Silverman (2017) and Martin and Turner, (1986). Through these patterns, we have developed codes and themes, which later have guided our choice of theory.

Setting of the case study

The qualitative research is established through a single case company Sweco that has or is currently incorporating circular economy in the organization, as a concept and as defined practices. Sweco is a global engineering consultancy firm, offering qualified services within sectors such as environmental technology, infrastructure, construction and architecture for sustainable communities and cities (Sweco, 2021a). Sweco AB is publicly listed on Nasdaq Stockholm, with sales of around SEK 21 billion and around 17,500 employees over the different global subsidiaries: Sweden, Norway, Finland, Denmark, the Netherlands, Belgium, United Kingdom and Germany & Central Europe (Sweco, 2021a). Each of these subsidiaries is considered as a business area and is managed by a business area president and a business area finance director (Sweco, 2021b). As a large consultancy firm, Sweco is not a manufacturing or producing firm but aims to provide the most accessible and broadest expertise within the above-mentioned sectors.

The integration of the circular economy has reached various levels in the different business areas. According to Sweco's Chief Sustainability Officer, Sweco Sweden, Sweco Netherlands and Sweco Finland conduct pioneering work within circular economy and sustainability. Therefore, we have investigated these three different business areas to fully understand the process of organizational change. Sweco Sweden is, according to the respondents, at the starting point to incorporate circular economy, facing new national circular directives and investigates the possibilities of how to increase circularity in their business offering and organization. Therefore, Sweco Sweden searches for inspiration outside the country borders. Sweco Netherlands and Sweco Finland have, according to the respondents, come furthest in the work of circularity and have already realized such possibilities and therefore, set examples for the rest of the business group. These two business areas are additionally interesting as the countries' governments undertook commitments regarding circularity already in 2016 (Ministry of Infrastructure and the Environment, 2016; Sitra, 2016). By choosing these three different business areas we get a threefold understanding of organizational change, what has been done, what is being done and what needs to be done. This approach allows us to answer the research question of how the concept of circular economy is incorporated into an organization.

The study has been conducted during an internship in the Swedish business area of Sweco AB. We have worked together with the Chief Sustainability Officer and the Sustainability Council responsible for the sustainability work at Sweco Sweden. Thus, data constitute information

regarding the internal operations of Sweco in the three specified business areas of Sweden, the Netherlands and Finland.

In conclusion, Sweco is an appropriate context and a natural choice of a case study as we have received a deep and multilayered understanding of the integration of circular economy. The internship has enabled us to observe and participate in the internal work and practices related to circularity, which has provided an extensive data amount. Our roles as interns increase the awareness and credibility of our findings since we are part of the change process of increased circularity in Sweco Sweden. This reasoning is supported by studies of interactive research, (Svensson et al., 2007), and will be developed further below in *Ethical reflections and limitations*.

Data collection methods and procedures

Primary data sources include interviews with Sweco Sweden, Netherlands and Finland as well as observations of internal meetings at Sweco Sweden. Interviews constitute the majority of the data collection and have been conducted digitally during a month through the medium Microsoft Teams. Respondents have consisted of relevant employees (ranging from CSOs, managers, coordinators, project leaders, architects, and other consultants) within different organizational levels and countries to get a cross-organizational understanding. Silverman (2017) and Kvale, (2006) argue that interviews are useful in qualitative research and emphasize how interviews provide a deeper understanding of the reason behind the actors' behavior, which is why interviews have been chosen as the primary data collection method in this study. The interviews were semi-structured into ten broad questions, which were elaborated upon and generated occasional sub-questions. The choice of assuming a semi-structured approach was based on the reasoning of Silverman (2017), who argues that semi-structured interviews allow for a broader scope. Additionally, McIntosh and Morse (2015) also denote the advantages of semi-structured interviews within qualitative research as it allows the respondents to elaborate at the same time as the interviewer can control the situation. The interview questions were not provided to the interviewees in advance. Thus, the preparations of the respondents merely consisted of a brief account of the aim of the research. Through these interviews, we gained insight into the respondents' conception of the work related to circularity and organizational change within Sweco. The interviews were transcribed and coded into general themes applicable in the empirical section and discussion, see *Data analysis methods*. We made primary interviews with respondents at Sweco Sweden, calculated to 14 interviews. The respondents consisted of both sustainability managers and employees that in some way have connections to circular economy in their consultancy and/or sustainability assignments. Since the respondents also consider Sweco Netherlands and Sweco Finland as pioneers towards circular economy, we made complementary interviews with these two business areas, which added value to the research. Four interviews were made with respondents from Sweco Netherlands and three interviews were made with Sweco Finland. The difference in the number of interviews in each country can be explained by the fact that we are interns at Sweco Sweden, but also by the fact that Sweco Finland and the Netherlands have appointed official roles

dedicated to the work of circular economy, which made it easy to find suitable respondents. Sweden on the other hand does not, thus it was harder to find appropriate respondents. The same amount of qualitative data was however acquired in each business area, although the majority of the interviews were conducted in Sweco Sweden. According to Silverman (2017), the number of interviews depends on the depth of our research problem, thus we argue that the combination of respondents from the three relevant business areas gives us the relevant data collection for our analysis.

Additionally, to complement our understanding of how an organization undergoes change, we have conducted ten observations through internal digital meetings over Microsoft Teams. Although, we are aware that our observation possibilities have been limited by the current strict remote working policy. As all interaction has been through digital means and not onsite, observations constitute a minority of the data collection and serve well as a complementing method. The choice of observation was based on the reasoning of Silverman (2017) who states that observations are suitable for collecting data that can illustrate how actors act and behave. *Secondary data* have been useful as a starting point but also throughout the research for collecting data regarding existing governmental guidelines and national commitments to circular economy (Regeringen, 2021; Ministry of Infrastructure and the Environment, 2016; Sitra, 2021; European Commission, 2021).

Data analysis methods

Silverman (2017) argues that it is important to anchor and analyze obtained data through theoretical theories and concepts. We have looked at different practices and interactions among actors when realizing ideas and spreading knowledge within an organization. As mentioned above, a grounded theory approach was applied. Thus, we conducted inductive work where we collected data and later located certain patterns, which guided our choice of theory. Through a coding process, we identified different patterns in the collected data, which we compiled into themes. The process of coding was divided into three stages: first-level coding, including 62 different codes. Second-level coding, including 20 codes. Lastly, third-level coding, including six codes; *knowledge sharing, interaction among actors, knowledge networks, decentralization, timing and challenges*. The third-level coding generated theoretical ideas as we could see different recurring patterns in the empirical findings. The defined codes displayed similarities between theories within change management, translation and CoP. These theories became a suitable framework for the theoretical analysis of how circular economy is incorporated into practice. The theories were used to understand and explain how actors, including managers, employees, clients, technology, and society, within and outside an organization, interact with each other. Finally, the theoretical framework together with the third-level coding generated four themes that constitute the foundation for the discussion: *translating through different actors; translation through CoP; implications of time and space, and bottom-up and top-down approaches*. These themes generated a rich discussion, which enabled us to answer the research question of the study.

Ethical reflections and limitations

This study has been restricted to one case study, one organization, which could be viewed as a limitation. However, Silverman (2017) implies that one population is adequate when making a single case study within qualitative research. We have not collected quantitative data and therefore, do not need to consider several populations (Silverman, 2017). Despite one population, we believe that conclusions can be drawn from our study, which can contribute to other organizations' change initiatives. Conducting the study during an internship may also imply certain limitations. Accordingly, we have recognized the difference between participating in the actual work as interns and not only observing as outsiders, which has made us aware of our subjectivity. This type of research can be considered as an interactive research approach defined as a learning process between us as researchers and the participants of the organization (Svensson et al., 2007). During the internship, we have had a close connection with the actual sustainability work of Sweco Sweden. We have contributed with opinions, compiled material related to current sustainability issues and scrutinized the work related to circular economy.

Being researchers at the same time as attending the internal process of organizational change, may have resulted in different findings compared to only being outsiders. However, participating as interns has been advantageous and increased the awareness and credibility of the report. This advantage is recognized by prior studies of interactive research, which argues that close interaction increases validity (Svensson et al., 2007). Moreover, we have had to consider the aspect of confidentiality and sensitive information as we have signed a confidentiality agreement. Thus, respondents are not mentioned by name but by profession/title. However, we have been allowed to publish all empirical findings necessary for this study and the confidentiality aspects have not compromised our findings or analysis. Finally, the internship has provided advantages as we have accessed an extensive data supply, which has also implied large data processing. As we were initially aware of the extensive amount of data, we have made sure to compile, code, and analyze data continuously.

EMPIRICAL SECTION

This section displays the empirical findings of the report. First, the organizational structure of Sweco AB as a group will be briefly presented where the emphasis is given to the business areas Sweco Sweden, Sweco Netherlands and Sweco Finland. After follows an account of how circularity is incorporated in the three different business areas. Lastly, differences and similarities between the business areas are summarized.

Organizational structure

Sweco AB considers itself as the leading architecture and engineering consultancy firm in Europe, dedicated to societal construction (Sweco Group, 2021a). The organization is divided into eight business areas, which consist of several divisions, which vary from country to

country, including Architects, Energy and Industry, Project Management, Environment and Infrastructure, etc. (Sweco, 2021b). Respondents describe Sweco as a decentralized organization with a flat organizational structure and a transparent and open discussion culture. With Sweco's 17,500 experts in planning and designing communities and cities, Sweco takes part in shaping a sustainable future (Sweco, 2021d). Sustainability is a crucial part of organizational operations and should be incorporated in each project (Sweco Group, 2021b). The whole group aims to be climate neutral in 2040 (Sweco Group, 2021a). Additionally, Sweco argues that they need to share knowledge within all markets where they operate to help their clients reach the Sustainable Development Goals and contribute to a sustainable urban development (Sweco Group, 2021b).

Besides working with sustainability in projects, Sweco shares knowledge through different mediums. Through their website Urban Insight, Sweco shares and illustrates their expertise as well as offers insight reports of sustainable urban development (Sweco 2021c). On a group level, Urban Insight has four themes where one theme is emphasized each year: Urban Health and Wellbeing, Climate Action, Urban Energy and Urban Move. Additionally, Sweco Netherlands has six themes with an equal focus each year, including circular economy.

Sweco's Urban Insight is a ten-year knowledge program to design and develop attractive functional and future-proof urban areas. We do it together with our own network internally but also with our clients because that is important since we in the end work for our clients. The difference between Sweco Netherlands and other Sweco countries is that instead of having one focus, as this year is Urban Health and Wellbeing, we have six themes every year. So we have Urban Health and Wellbeing, Energy Transition, Climate Adaptation, Digitalization, Circular Economy and Smart Mobility. We focus on these themes every year and each theme has its own network of influencers that spread the word to colleagues and clients for new business. (Consultant, Sweco Netherlands)

Sweco AB's Chief Sustainability Officer (CSO) works 25% on the group level, and the rest 75% on the business area level (Sweco Sweden). Some business areas also have their own CSO dedicated to sustainability issues. However, Sweco Finland and Sweco Netherlands have official roles appointed to circular economy and established knowledge networks around the concept where they share their expertise, both nationally and across borders. There is not an existing department dedicated to circular economy exclusively, but circularity intends to be integrated into every business offering where it is possible. How circularity is integrated into the three different business areas of the organization and what challenges the organization encounters are described below.

How circular economy is incorporated in the business areas

Sweco has made various progress regarding circularity within the business group, which according to the respondents, is explained by the independent management of each business area but also by the commitment of each national government. Below, the work of three different business areas of Sweco is exposed: Sweco Sweden, Sweco Netherlands and Sweco Finland. According to the respondents in the various business areas, the Netherlands and

Finland have made the greatest commitments regarding integrating circular economy, both in terms of national and organizational commitments.

Circular economy at Sweco Sweden

In 2020, the Swedish government presented national strategies concerning circular economy as a means to reach national as well as international environmental objectives and climate targets (Regeringen, 2020). These strategies were later complemented by an action plan containing policy instruments and measures in 2021 (Regeringen, 2021). The strategies, in combination with policy instruments, aim to guide Sweden through the transition towards a society based on the concept of circular economy. Sweco Sweden wants to position themselves as leaders within their sector when planning and shaping future sustainable societies (Sweco, 2021d). Thus, it is of great importance to consider and incorporate the new directives from the government as fast and efficiently as possible. Therefore, Sweco Sweden aims to incorporate circular economy in projects where consultants continuously can improve their knowledge.

The legislators point very clearly at circularity both if you look at Sweden's circular strategy and action plan, but also the EU strategy etcetera. Accordingly, out of pure self-preservation, we need to be aware of this [circular economy]. (Chief Sustainability Officer (CSO), Sweco Sweden)

Initializing knowledge sharing of circular economy

Sweco Sweden's sustainability team consists of the Sustainability Council (the national CSO and three middle-level CSOs) and sustainability coordinators, one on a national level and one from each division. The coordinators constitute a two-way communication between the Sustainability Council and the rest of the organization regarding sustainability. Through these channels, discussions of circular economy concepts have increased. However, many employees within Sweco Sweden still lack awareness about the concept of circular economy. The lack of knowledge and the absence of a common definition within the organization regarding circularity, are issues addressed by both the council and the sustainability coordinators.

One challenge on top of my mind is that not all people understand what circularity means, both internally at Sweco and externally. Many recycle and automatically believe that it is circular economy. It is not. First, we need to reuse - not recycle. (Sustainability Coordinator, Sweco Sweden)

The management of Sweco encourages employees to stay updated on relevant and current topics within sustainability. For example, 20-40% of all employment is supposed to be dedicated to knowledge acquisition and internal development, according to respondents within top-management. Additionally, research projects have also been sanctioned by the top-management. In 2019, a scientific report was published concerning circular architecture, which was initiated by Sweco employees in collaboration with and financed by Naturvårdsverket. On behalf of the management, Sweco's entire quota of research grants was dedicated to this particular report. Besides management initiatives, there are other examples of how some employees have, on their own initiative, deepened and enhanced their knowledge regarding circularity through research. In extension, the employees have applied the increased knowledge to their consultation and voluntarily integrated circularity in the tenders towards clients.

We can integrate circularity directly into the tender process where we do not have anything to lose. For example, one client wanted to investigate the possibility of electrifying their vehicle fleet. The client operated within the paper mill industry which made it possible for me to include an investigation of the residues of the operations in the tender as I know that you can make use of sludge, waste heat and other waste in a circular way. Hence, if we know what we can do, we can take the opportunity and sell it directly to the client. (Project Leader, Sweco Sweden)

Besides the formal encouragement and the work of individuals, knowledge of circular economy is spread through unofficial networks of employees, across divisions, which connect over their shared interest of circular economy. These individuals seek each other out during their internal hours, through for example digital tools such as Microsoft Teams, create groups where they discuss implications of circularity and share knowledge concerning the concept. However, this is a contentious issue as Sweco can solely profit on consultancy hours charged in client projects, not on internal hours. Although Sweco encourages consultants to dedicate 20-40% of their employment to knowledge acquisition, this is rarely realized as client projects are prioritized, according to respondents. As a result, some employees argue that it becomes hard to motivate individual engagement in sustainability issues such as circularity as it is not profitable or compensated.

My experience is that when I'm trying to network around this [circular economy] it becomes internal hours, which becomes a cost. Usually, no one likes to use internal hours since it is regarded as a cost and non-chargeable. (Consultant, Sweco Sweden)

Additionally, since each division is responsible for its profits, this spurs an internal competition, which also limits knowledge sharing.

There is an internal challenge. Sweco consists of eleven divisions, which work in downpipes where it is easy to get stuck. Similar knowledge regarding sustainability can be found in several divisions. Consequently, it becomes a type of internal competition regarding assignments. (Consultant, Sweco Sweden)

Despite these internal conflicts, many employees engage in these unofficial channels of knowledge exchange regarding circularity because of their widespread interest. However, the work on circularity is still in an early stage in Sweco Sweden. According to the respondents, knowledge regarding the concept, communication tools for implementation and economic incentives must increase in order for Sweco to fully integrate circularity in their service offering towards clients.

Circular economy is a diffuse concept for us all. We neither have the organization nor the communication or ideas of how this should be done, which applies to the whole area of circularity, also outside of Sweco. I believe that we have a lot of competence and interest, but we now need to gather this strength and raise this issue. (Project Leader, Sweco Sweden)

How to increase circular economy in projects

Even though the circular economy terminology is not used, employees argue that circularity can already be located in several executed projects. The challenge is to define and highlight the circular aspects, which would help employees and clients to grasp the concept and the benefits of circular economy.

We have been working with circularity since the Dacke War. It has just not been stated. It is a question of definition. So it is basically about evaluating our previous projects. (Architect, Sweco Sweden)

Examples of circular businesses can be found within the area of construction where already existing buildings constitute foundations for new construction projects.

When I heard about Blique Hotel [a construction project at Sweco] I said "what a fantastic CE story this is", but it was not packaged in that way and the customer had not paid for that story. There are so many projects where we reuse material or projects that create conditions for transforming business models. We just did not package the stories. (Middle-level CSO, Sweco Sweden).

However, one sustainability coordinator argues that the clients generally are not aware of or familiar with the concept of circular economy, which calls for cautious usage of the word circularity. The respondent argues that the work of the circular economy should not be underestimated, but Sweco must adapt the vocabulary to the clients' conception. Some clients already work with circularity, which they are not aware of as it is not formulated as such. The clients are interested in improving their businesses, creating success and progress through innovation and methods, not another fashion word, according to the respondent.

One part of the innovation is to talk about sustainability or circular economy in a new way so that everyone understands. Clients already work with reuse but are not familiar with the concept. We don't need to invent "the wheel" again, we just have to communicate in the right way. Speaking with metaphors creates a good way to create understanding. Do not underestimate storytelling! (National Sustainability Coordinator, Sweco Sweden)

On the contrary other respondents argue that Sweco must attribute circularity to tools used for sustainability purposes. Currently, there are several digital tools already in use, which can serve as facilitators for circularity. These include design tools within construction, such as Building Information Modeling (BIM), Life Cycle Analysis and Carbon Cost Calculations, which can display the climate impact of building components and store data concerning material use. The respondents mean that if we attribute circularity to these tools, consultants and clients could gain awareness of the benefits to implement and construct with a circular economy approach and normalize the terminology in discussions.

We have already developed services that enable integration of circular aspects in our design stage directly in BIM models so that e.g. architects can see reuse potential, upcycling potential and various economic scenarios to be able to imagine in each component and base material. (Sustainability Coordinator, Sweco Sweden)

Nevertheless, Sweco consultants experience challenges when confronting the needs of their clients in terms of circularity as many lack knowledge regarding the concept. This indirectly inhibits the development of circular economy within Sweco, as it appears that there is a weak demand for circular economy projects, according to respondents.

If the client has not discussed sustainability in the particular surface being constructed, it is hard to get through with circular ideas in the construction process. (Architect B, Sweco Sweden)

Additionally, to win a business proposal, consultants must especially justify the economic benefit. Sometimes, they also mean that the current legislation counteracts increased sustainability initiative as it is cheaper with a “traditional”, linear economic model.

There is a feeling that clients rather have virgin material. For the moment it is cheaper to use virgin material and in the near future it might not be cheaper to use reused materials. If we are to become circular, virgin materials need to become more expensive. (CSO, Sweco Sweden)

In relation, consultants therefore argue that Sweco needs improved financial models and support as well as a system perspective.

What is important, in order for circularity to be integrated into our service offering, is to connect the financial models. We must be able to report in kronor when we think of the design for reuse. We also need a connection to the banks so that they give you a green loan if you can show that you have a high circular index for your building. [...] Secondly, we have to apply a system perspective with all actors involved in the product chain’s life cycle, including the society in which the products are actually moved. What is missing are the storage sites and the marketplace for reuse. As soon as there is a tax for this, these will be developed. (Middle CSO, Sweco Sweden)

To successfully implement circularity into the organization, Sweco Sweden has looked outside the country border towards other business areas such as the Netherlands and Finland, where the circular economy work of Sweco is considered as prominent. Below follows sections describing the work in the Netherlands and Finland.

Circular economy at Sweco Netherlands

Shortly after the launch of the circular economy action plan by the European Commission in 2015 (European Commission, 2021), the Ministry of Infrastructure and the Environment in the Netherlands (2016) presented strategic goals on how to transition to a circular economy before 2050, similar to the circular strategies that Sweden presented in 2020. Simultaneously, motivated individuals within Sweco Netherlands formed unofficial groups in 2017 to create awareness and share knowledge about the concept of circular economy in the organization. Since then, the organization has established a transition agenda to reach the goal of being 100% circular, in line with the government by 2050. Respondents argue that a bottom-up approach of spreading the knowledge and ideas has made circularity into a management issue and increased opportunities for sales.

The start of the work was first of all that we had our own ambition to become circular. I think we have used the Urban Insight program with circular economy as one of the themes and made it a topic at several departments and divisions. It then became a snowball effect, starting at the bottom with a few colleagues that were motivated and had ideas, and at some point, it became a topic at the top-management level. Now it is a more common theme as we have circular economy directors and it is seen as a very important theme in the organization. (Team Manager, Sweco Netherlands)

As explained in the section *Organizational structure* above, circular economy is one additional theme of Urban Insight in Sweco Netherlands, compared to the whole business group, and this is integrated as a cross-function over their different departments. Accordingly, employees at Sweco Netherlands can have multiple titles including the circular concept, for example, one employee is simultaneously a Landscape Engineer and Sustainable & Circular Construction Consultant. Moreover, the company has an extensive official knowledge network including several ambassadors who engage in different topics. Approximately 25 of these ambassadors act as circular economy influencers (CE influencers) who specifically spread knowledge regarding the concept of circular economy.

Growing from four influencers in 2017, we are today 20-25 volunteering influencers in our knowledge network that are into circular economy, some more than others, who want to do something more with the business. We are looking for ambassadors that are doing things in their interest and want to spread the word and knowledge. (Consultant, Sweco Netherlands).

How to share knowledge of circular economy

The knowledge network spreads innovative ideas and knowledge including circular economy, through Urban Insights reports, presentations and workshops, both internally and externally.

In the first stage of developing circularity, we, as influencers, went to all Sweco offices in the Netherlands to give lectures on circularity. Attendants were colleagues who were interested in the theme in that office but everyone was invited. It was a very good way to make people more aware of the topic and explain more about circularity. (CE Influencer, Sweco Netherlands)

Further, the respondents explain that the organization needs to have one vision and make the employees believe in that vision, which is accomplished in Sweco Netherlands through a combined top-down and a bottom-up approach. This means that the ideas of individuals should be acknowledged and spread through the organization's top-management, through their strategy decisions. As top-management acknowledges the importance, the ideas can be transformed into official or formal directions for the rest of the organization. A sense of urgency and understanding of the bigger picture are also needed to get people into action. Moreover, Sweco Netherlands has certain employee-engaging activities such as workshops, presentations and webinars. They also share their knowledge and reference projects across borders to other business areas in Sweco AB. In addition to spreading awareness internally, Sweco Netherlands focuses on spreading knowledge externally through courses and through their own managed podcast, *Circulaire Economie*, where CE influencers invite clients to discuss the topic of circular economy.

The most important way to change towards a circular economy is to change the people. If you do not want to change and do not see the benefits of a circular economy, then you will not be able to make the change. For every organization and for the whole country, change happens when you have good ideas that go bottom-up, some colleagues that have a good idea that is valuable and easy to do business with. The other part comes from top-down, you have to be clear that this is the way you want to go and that this is the future. If it is not so clear, people go different ways. For a change to happen you need both bottom-up and top-down. (Consultant, Sweco Netherlands)

As a result of the early strategic report by the government of the Netherlands in 2016, the concept of circularity is more mature in the market of the Netherlands, compared to the Swedish market, some respondents argue.

The questions we get from our customers are almost always about projects where they want to learn about circularity in terms of a pilot project, analysis or resources. [...] I think for 2030 for example, it [circular economy] will be integrated in the projects and not a separate question. (Consultant, Sweco Netherlands)

Also, the respondents explain that the mature market is visible through the demand of circular economy projects and through client initiatives such as establishing material banks.

Some of our clients, and also many organizations, are creating material banks, like a library for materials. Some clients have their own. For example, if they need to reorganize a road, they store their materials and then use them for another project. (Engineer, Sweco Netherlands)

Visualizing circular economy

Sweco Netherlands tries to adapt to the circular economy demand by engaging stakeholders. Respondents explain that they establish client surveys, have frequent dialogues and also use visualization tools to clarify the concept and show the economic incentives to clients. For instance, Sweco Netherlands works with a recipe model including soft factors such as creating awareness, and harder factors such as policies and measurements. For those clients who are not aware of the concept, Sweco Netherlands focuses on a clear vision of the circularity projects and creates advisory reports for inspiration.

The circular economy concept is implemented to help clients with the tenders, to make circularity more measurable. We create advisory reports for the clients on how to improve their circular way of working. It is also integrated in the way we are connected to some knowledge groups or networks together with other companies and clients to improve how we work. [...] We need a clear vision for how circular economy is valuable for the clients. (UI Project Leader, Sweco Netherlands)

Additionally, economic incentives are needed for the clients' understanding of the aggregated effect of circular economy. One important driving force to change originates in profitability. For example, materials in buildings constructed with a circular economy approach can be reused after the building's lifetime. This implies that such constructions have a greater value at the end of the building's life cycle compared to a construction with a linear economic approach. However, in the short term, it is currently cheaper to use virgin material compared to reused material, which puts pressure on the consultants to prove the long-term economic benefits of circular economy.

The main tip in regards to economic incentives is to start looking at the total life cycle of the project or the new building, and the whole economic value, not only to the building phase. [...] The finance part gives the best results. When we can show the profitability, it is going to fly. How you calculate the economic value is very difficult but in the Netherlands, we see a lot of new incentives to look into these questions. When people change it is because of money. The same has been seen in energy transition, when it is visible we change. (Consultant, Sweco Netherlands)

As displayed, Sweco Netherlands is prominent within the circular economy development. In the next section, Sweco Finland's work on integrating the concept is described. With a slightly different approach compared to Sweco Sweden and Sweco Netherlands, Sweco Finland also distinguishes itself as a frontrunner of circular economy, according to respondents.

Circular economy at Sweco Finland

By the year 2035, the economy of Finland is expected to be entirely based on the concept of circularity (Sitra 2021). This goal was set by the Finnish government in 2016 and will be carried out through a road map governed by the Finnish Innovation Fund Sitra (Sitra, 2016). In 2019, the road map was updated with additional measures as Finland aims to lead the way globally in the circular transition (Sitra 2021). Finland's ambition as a country has inevitably affected the work of Sweco Finland, according to respondents. Currently, Sweco Finland together with other companies is assisting the Finnish government and the Ministry of Environment when new regulations and guidelines are formed.

Sweco Finland helps the Finnish government through the Ministry of the Environment who are preparing the regulations. They are asking us and of course other competitors to comment and consult regarding the regulations and guidelines that they are developing. (Consultant, Sweco Finland)

Through this collaboration, Sweco Finland has the opportunity to influence future legislation. The respondents define legislation, especially regarding quality standards of reused materials, as necessary for the future of the circular economy. Moreover, the innovation fund Sitra is described as a reference point, which inspires and guides the initiatives of Sweco Finland. The debate regarding circular economy is maintained and nurtured within the organization but also in the industry, which is considered an effect of the work of Sitra and the determined approach of the government.

Sitra has been very active in circular economy and what Sitra says is basically what leads the way in Finland. When we talk about the financial potential that the circular economy has, how much it can actually grow in businesses in Finland, we always look to what Sitra has said as a guideline. Also, customers in Finland want to be a part of Sitra's work. (Circular Department Manager, Sweco Finland)

Circular economy - a management issue from the start

Sweco Finland emphasizes the importance of transforming societies towards a circular economy. Thanks to the guidelines from Sitra, Sweco Finland considers circularity as a management issue and has implemented circular economy into the business strategy since it is important for the entire organization.

From my point of view, it [circularity] is of course very important. But it also has to be seen in our management team. We do see that it needs to happen and therefore, it has become a part of our strategy. We want to help our customers and we need to focus on how we should grow and increase knowledge in that field of business. And it has been well recognized in Sweco - that this is important. [...] We have definitely already started selling CE projects to clients. Not only because of our initiative but because they are asking for it. (Circular Department Manager, Sweco Finland)

Moreover, the clients from different sectors also request expertise and projects with a circular economic approach on their own initiatives. Thus, the circular economy is well integrated into the Finnish society, respondents argue.

It is important to our customers and we can see it in different industry sectors where circular economy is part of their plans. (CSO, Sweco Finland)

However, since Sweco Finland strives for a high level of learning and knowledge acquisition among its consultants, circularity is addressed whether or not the client has expressed an interest. Tools such as BIM, Carbon Footprint Analysis and Life Cycles Analysis serve as important visualization means, depicting circular solutions and possibilities. The national circular economy strategies of Finland are also of great importance, the respondents argue. Sweco must know the strategies and through them locate the needs of their clients. Although, Sweco Finland admits that circularity is a new business area for them but are confident in their capacity.

At least in the industry sector, we notice that the customers want to see some studies and plans for improving existing plans and we do have the knowledge and also the courage to go into this new field. (Circular Department Manager, Sweco Finland)

This conviction is believed to be important when addressing new business opportunities and clients, as many are requesting circular projects. Sweco Finland relies on several reference projects in terms of circularity, which are compiled into a compendium. The compendium also displays the importance of circular economy in relation to the rest of the business strategy, operations and business offerings. These reference projects can convince clients of Sweco's competencies in circularity. Accomplished circular projects are carefully monitored in terms of revenue, execution and value, which serve as business support internally and when communicating about circular economy externally towards clients. These measures are important follow-up work based on feedback and client discussions.

We have management indicators for our circular businesses, which I follow closely. For example, we of course follow our revenue from circular economy projects, our hit rate from our tenders and their values. We look to our customers, after every assignment, but also when we have lost a tender to get feedback when we go into new businesses. (Circular Department Manager, Sweco Finland)

Through this documentation the credibility of Sweco Finland's circular economy competence, and the benefits of circularity are reinforced, the respondents argue. The documentation of won but also lost tenders has become important as it exposes the shortcoming of circular offerings, which might be valuable when developing new businesses.

Summarizing differences and similarities between the three business areas

Although the three business areas, Sweco Sweden, Sweco Netherlands and Sweco Finland operate under the same group, differences in how to incorporate circular economy into the organization are identified. First, there is a difference in the management approach. Sweco Finland has implemented circular economy through a top-down approach with Sitra as a guideline. In contrast, in Sweco Netherlands and Sweco Sweden, the concept of circular economy has started to spread through a bottom-up approach through different groups of employees. Sweco Netherlands, however, argues for a combined top-down and bottom-up approach as the initiatives from employees have been incorporated on the management level, making it a management issue to spread the concept and practices further in the organization. Secondly, there are differences regarding how far the business areas have come in their work. Sweco Finland and Netherlands are prominent and have established practices and tools of circular economy, while Sweco Sweden is at a starting point. Thirdly, differences are visible between the business areas regarding appointed circular economy roles. Sweco Sweden, currently initiating discussions around circular economy, has no officially appointed consultancy role except the traditional sustainability titles, while Sweco Netherlands and Sweco Finland have appointed individuals to certain circularity roles. Fourth, there are also differences in the establishment of decentralized knowledge networks. Sweco Finland does not emphasize these kinds of networks, while Sweco Netherlands has an extensive and well-established network and Sweco Sweden has a network and motivated individuals, which are not yet explicitly identified by the management team. The fifth difference is related to the circular economy demand among the clients. Sweco Finland and Sweco Netherlands seem to have a more mature market where clients frequently request circularity projects, compared to Sweco Sweden where this is considered a rarity, according to respondents.

Moreover, similarities between the business areas are related to the challenges of circular economy. First, all the business areas are located in nations, which have embraced the circular economy concept and published strategies and action plans to realize it. Both Finland and the Netherlands initiated circular economy strategies in 2016, while Sweden presented the strategies in 2020. Second, both Sweco Netherlands and Sweco Finland have managed to make circularity a top-management issue. Third, motivated individuals with a passion for circularity are visible in all business areas, which strive to spread and gain knowledge regarding circular economy. Fourth, the business areas share the same challenge of visualization of circular economy. For example, the issue of economic incentive and justification in communication with clients are important, yet a challenge. As shown, some digital tools and process methods are already established at Sweco Netherlands, and Finland but can be improved at Sweco Sweden.

The summarized differences and similarities show how the concept of circular economy has been incorporated among actors and knowledge networks within and outside the organization.

To gain a deeper understanding of these differences, similarities and how circular economy is incorporated in the organization, theoretical concepts are necessary. This analysis is drawn in the following section.

DISCUSSION

The empirical findings display valuable insights regarding different approaches to how organizational change within an organization is realized. To answer the research question, how the concept of circular economy is incorporated in an organization, we analyze the findings through theories of translation and the sharing of knowledge among social groups defined as CoP. The findings in the empirical section provide extensive data on different practices among various actors, both human and non-human, which through interactions create networks with various power to realize the idea of circular economy. The power dynamic of these networks also seems to be affected by time and space aspects as well as bottom-up and top-down management approaches.

Circular economy translated among human and non-human actors

We regard the concept of circular economy as an idea, similar to the theories of Czarniawska and Sevón (1996), as the empirical findings display how the concept travels between different settings, communities and organizations to be incorporated. The findings show how different actors assimilate the idea of circular economy through interactions with other actors and incorporate it as different practices in the organization. These interactions and interpretations of the idea can be explained by the translation process (Latour, 1986; Czarniawska & Sevón 1996; Diedrich & Guzman, 2015), as the idea becomes acknowledged and to some extent institutionalized as part of taken-for-granted organizational practices. As the findings show, the ideas of circular economy have generated change in terms of new practices in some parts of the organization, implying that the translation process of the concept of circular economy has been more or less successful. Below follows an elaboration of how the concept of circular economy has been incorporated through the translation process at the different business areas of Sweco.

At Sweco Sweden, the translation process of the idea of circular economy occurs and is accepted in some spheres, through unofficial networks of individuals, but not in the entire organization, as some respondents argue. In these unofficial networks, motivated individuals spread knowledge and practices to share the concept and create a mutual understanding through interactions, thus translating circular economy into practice. Circular economy has been made tangible and concrete through digital tools and to some extent applied in client projects, which displays the translation process between individual consultants and non-human actors. In the Swedish organization as a whole, the concept of circular economy is still abstract and not part of everyday practices, which can be explained as an ongoing translation process of the concept

as described by Diedrich and Guzman (2015). Even though the concept is translated among some actors who try to incorporate circular economy in projects or tenders, there seems to be disagreement in the different approaches and vocabularies of circular economy. As shown in the empirical findings, one consultant claims that the concept should be avoided in client discussions. A new fashion word stirs confusion and might fall into oblivion when the interest has cooled or another concept becomes the center of attention, according to the consultant. Instead, discussions should rely on well-established ideas or metaphors such as innovation or value, which will facilitate communication with clients. On the contrary, other respondents aim to normalize the concept to give it a taken-for-granted place in client discussions, by for example displaying the economic benefit. According to these respondents, Sweco has been working with projects relatable to circular economy for decades, now they just need to repackage the business offering which is considered as challenging. To explain this, we can make use of the argument by Czarniawska and Joerges (1996) that ideas become legitimized, through materialization, or rejected. This materialization is displayed by the findings from Sweco Sweden since the consultants use metaphors, communication and economic benefits to address the concept in client discussions, thus translating the concept. However, the disagreement of how to materialize the concept together with the unaligned definition might explain the ongoing or incomplete translation of circular economy in the Swedish business area. The idea has evidently not affected practices, since the concept is translated differently, which creates inertia for new practices to occur. Additionally, an important actor, defined by the respondents, is the Swedish government who has not established circularity strategies and action plans until recently, which also might contribute to the inertia. As found in the theoretical section, Diedrich and Guzman (2015) argue that all actors must be aligned and convinced of an idea through translation, in order for change to be produced. The timing aspect of the government will be further developed in section *The importance of time and space for travels of ideas and establishing CoP*.

At Sweco Netherlands, the integration of the circular economy concept through translation has resulted in taken-for-granted practices, which through Diedrich and Guzman (2015) can be explained as a successful translation. Here, the idea of circularity has matured and materialized in the organization through material actors, such as the Urban Insight platform, models and tools. Another powerful actor is the government who established strategies of circularity early on, which made circular economy a prioritized issue in society, as the respondents argue. These power dynamics among non-human actors have enabled the translation process as they have carried the idea, materialized it and thus created aligned conceptions of circularity among the consultants at Sweco. The importance of non-human devices in the translation process, such as the Urban Insight platform and models, is noticeable. Thus, Sweco Netherlands has recognized the full potential of tangible tools and developed several, which enables a successful translation process within and outside the organization. By visualizing circular economy, through for example the recipe model or as concrete economic benefits, the idea of circular economy has been made tangible and materialized in discussions, thus translated into practice. Hence, ideas are translated through interactions where actors are mobilized into actions, which is denoted as important to generate change according to Czarniawska and Joerges (1996) and Diedrich and Guzman (2015).

The work of materializing the idea of circular economy is also visible in the business area of Finland. Sweco Finland has materialized the concept of circular economy through compiled reference projects and existing sustainability evaluation tools, such as BIM, Carbon Cost Calculation and Life Cycle Analysis. The compilation and the tools have eased discussions as they have visualized and concretized the before contentious aspects of circularity. Moreover, each circular economy project has been monitored, measured and evaluated, which has improved the understanding of circularity and facilitated communication. This visualization and concretization constitute the internal translation process of circular economy in the organization of Sweco Finland. The translation process has also occurred through interactions and collaborations with other non-human actors such as the government and Sitra, which have aimed to concretize the concept of circular economy in Finland. Sitra, as a recognized and official organization, has granted legitimacy to the concept of circular economy, which has facilitated the societal translation process, including companies such as Sweco. By formulating guidelines and providing concrete examples of circularity, Sitra has made the idea of circular economy tangible and relatable in interactions with other actors.

The findings show that actors, human and non-human, carry the idea and materialize it through different practices and interpretations, which in some place, in some time, result in institutionalization and taken-for-granted practices. Accordingly, organizations could benefit from acknowledging the importance of the translation process, including the interaction of human and non-human actors, as it enables change. Further, what is interesting is that much of the translation seems to take place within certain groups, among certain individuals that drive the idea forward. Thus, by looking at the translation process within the knowledge networks of Sweco, i.e., CoP, valuable insights regarding the translation process and knowledge sharing can be gained.

Translating circular economy through CoP

As Sweco's core business consists of consulting, much internal knowledge is required, making Sweco a knowledge-intensive organization. Naturally, the company becomes a collection of many competent individuals. As the empirical findings display, these individuals seek other like-minded individuals across the organization, which create groups that connect over the shared interest of circular economy. These group formations that exchange knowledge can be explained as CoP (Wenger & Snyder, 2000; Esnault et al., 2006; Fox, 2000; Schmitz et al., 2010; Pyrko et al., 2019; Rennstam & Kärreman, 2020). As seen in some business areas at Sweco, social group constellations, or i.e., CoP, serve as important enablers, which advance the incorporation of circular economy. Within these groups, knowledge and practices of circular economy are shared, which constitutes an important part of the organizational translation process. Looking at the reasoning of Wenger and Snyder (2000), one explanation of the occurrence and prosperity of CoP can be the high level of knowledge within Sweco, as the authors argue that CoP are common in knowledge-intensive firms. Another explanation of the occurrence of CoP can be found in the decentralized organizational structure of Sweco. The decentralized business model of Sweco encourages and allows employees to, on their own initiative, increase and share knowledge internally among all consultants. Rennstam and

Kärreman (2020) emphasize that CoP require cautious management and Pyrko et al. (2017) argue that CoP are cultivated and cannot be managed. These arguments can explain how the decentralized business model of Sweco facilitates the emergence of CoP. However, in contrast, the findings also display how CoP can profit from managerial intervention, as management can realize the ideas of CoP as taken-for-granted practices within the whole organization. We see this at Sweco Netherlands, where unofficial networks have become official networks where circular economy tools and models have become legitimized daily practices. The managerial implication in relation to this will be elaborated below in the section *Bottom-up and top-down approaches for implementing CoP and translating ideas*. Further, as mentioned by Esnault, et al. (2006) and Brown and Duguid (1991), technical tools are also important for the establishment of CoP and the knowledge sharing within them. The importance of tools is also acknowledged by Czarniawska and Sevón (1996) and Diedrich and Guzman (2015). These different reasonings enable a union of studies of CoP and studies of translation. As seen in our study and analyzed in the previous section, the tangible aspects and non-human tools in relation to circular economy are important elements in all business areas at Sweco. These objects serve as enablers of the translation of the concept within the CoP at Sweco, which in turn can incorporate the concept of circular economy into the organization.

CoP and the benefits of sharing knowledge can be a reason for a successful translation process of circular economy at Sweco. However, as the findings display, the idea-materializing process of translation seems to be more successful especially in the CoP of Sweco Netherlands. The technical objects and the decentralized organization together with an open learning culture can be seen as enablers of successful CoP at Sweco Netherlands since circular economy has been incorporated into practices. Coherent with the empirical findings, it can be argued that the Netherlands has an open attitude towards learning and knowledge sharing in their CoP. They have conducted several initiatives which support knowledge sharing and learning, such as the lectures on circular economy, the extensive usage of the knowledge platform Urban Insight, official influencers for circularity, as well as circular economy models and frameworks. Additionally, they also aim to spread knowledge and teach external actors, through for example their podcast. All these measures show that Sweco Netherlands wants to learn, wants to gain knowledge and embrace innovation, resulting in concrete tools. The reasoning of Brown and Duguid (1991) can explain these findings as they view learning as a bridge between innovation and working. When united with CoP, these factors of learning, innovation and working, seem to enable change as we have seen in Sweco Netherlands. Evidently, learning in Sweco Netherlands links the innovative idea of circular economy and concrete practices within CoP and has led to a more prominent incorporation of the circular economy concept. Moreover, as Pyrko et al. (2019) argue, learning in CoP is an activity that can be translated into practices, which can explain the more stabilized and accepted CoP-network at Sweco Netherlands. Thus, together with the technical objects and the decentralized organizational structure, this open learning culture could explain the emergence of CoP and how circular economy has become translated into practice in this business area. From a general and managerial perspective, this implies that organizations should promote networks among motivated employees as they can drive learning, innovation and new practices.

In contrast, from the perspective of Sweco Sweden and Finland, the technical knowledge and learning culture might not be enough to explain the success of incorporating the concept of circular economy through CoP. All business areas consist of competent individuals equally capable to come up with concrete technical tools and rely on the same decentralized organizational structure, which promotes learning. The concept of circular economy has materialized in some CoP at Sweco Sweden, where certain consultants have exchanged knowledge and practices. However, the concept is not fully translated into taken-for-granted practices. Additionally, CoP are not present to the same extent in Finland either. Therefore, to understand how circular economy is incorporated, we need to add the time and space aspects as well as the management approaches to the translation process.

The importance of time and space for travels of ideas and establishing CoP

The timing and context of the idea of circular economy are interesting to consider and can be explained by the reasoning of time and space aspects in the translation process as highlighted by Czarniawska and Joerges (1996) and Wæraas and Nielsen (2016). As some consultants mention, Sweco has been working with circular economy projects for many decades. However, now is the right timing for the translation of the concept to occur, perhaps caused by the political debate of circular economy solutions to the climate crisis. As described by Czarniawska and Joerges (1996), ideas travel through local and global time and space and the longer a problem remains in focus, (such as the climate crisis), the easier ideas can be translated, improving their chances of being legitimized and realized as organizational practices. Circularity, as all ideas, has presumably emerged in a local context, which later has traveled into global time and space, visible through the national and transnational commitments to circularity. The recognition of the concept in macro, global context, for example by the European Commission and the national commitments, has granted circular economy the legitimacy required to continue traveling. Now, the idea must travel back to local time and space for organizations to incorporate it, implying that it is up to Sweco to translate circular economy into their practices.

It is surprising that Sweco Sweden has not come further in the translation process of the concept although respondents claim that circularity has been part of Sweco's operations for decades. As the findings show, there is an ongoing translation process in which the concept has recently emerged and CoP, interested in circular economy, have recently gained increased attention. Apparently, the repackaging of old practices into a new concept is a challenge looking at the Swedish organization as a whole. Acknowledging the time and space aspects (Czarniawska & Joerges, 1996; Wæraas & Nielsen, 2016), the challenge might be explained by the recent national commitment of Sweden, as the strategy for circular economy was not established until 2020, making circularity a new issue in public discussions. This can also explain the finding that the Swedish market has not matured to the same extent as in other business areas and that clients are not familiar with the concept, as argued by the respondents. The immaturity of the market and the lack of demand might affect Sweco Sweden's ambivalent approach towards the

concept of circular economy. In comparison, the Netherlands and Finland initiated public discussions and established circular strategies already in 2016. These national commitments have served as guidelines to integrate the circular economy, as respondents argue, thus creating legitimacy for the idea to travel. This is also visible through the increased demand for circular economy projects in the markets of Sweco Netherlands and Finland. Simultaneously as the strategies were established, CoP with individuals interested in circularity started to take form at Sweco Netherlands. These groups rapidly gained recognition resulting in a timeline for the circular economy development and appointed circular economy titles. The CoP have in their micro setting processed the idea of circular economy in local time and space where it has become a recognized, materialized idea. Through means, communication and the national guidelines the idea at Sweco Netherlands has traveled from CoP to the management level where more internal actors have been convinced and enrolled in the translation process. Thus, looking at the practices of the different business areas within CoP, time and space are important factors for explaining the translation process. Subsequently, organizations can benefit from considering the time and space aspects when incorporating new ideas and practices.

However, at Sweco Finland, CoP did not occur to the same extent after the national strategies were established. Instead, top-management took action, which has eased the translation of the idea throughout the organization. Looking at Sweco Finland also creates questions concerning the differences in management approaches.

Bottom-up and top-down approaches for implementing CoP and translating ideas

By internalizing CoP and translating circular economy within the organization through time and space, the idea is incorporated in practices and managerial strategy work. This displays a connection between translation, CoP and management approach.

The empirical findings show how the practices of circular economy within Sweco differ from business area to business area. As mentioned above, this phenomenon could be explained by the decentralized organizational structure, allowing different practices in the organization, such as the emergence of CoP. Since the organizational structure is decentralized, it opens up for different change processes where the business areas themselves can choose what ideas to prioritize and realize, which also welcomes an interesting discussion regarding bottom-up and top-down approaches. The change process at Sweco, through the decentralized organizational structure, can be interpreted through the reasoning of Chia (2014) who argues for an emergent bottom-up approach of iterative, open-ended processes to change, including actors on all organizational levels. However, the reasoning of Chia (2014) cannot explain the findings at Sweco Finland where circularity has been incorporated through a top-down approach. Circular economy directly became a management issue when the governmental strategies were established, which affected both strategy formulation and operational practices. The external support by Sitra and the early governmental guidelines in Finland have legitimized the concept of circular economy. It has increased the incentives to make circularity a management issue

integrated into the business strategy, which has facilitated the translation throughout the organization. This empirical finding demonstrates that also top-down initiatives can have a direct effect on practices. It opposes the reasoning of Chia (2014), Thomas and Hardy (2011), and also Czarniawska and Joerges (1996) who argue that planned top-down change is bound to fail.

Nevertheless, the findings from Sweco Netherlands display bottom-up initiatives of CoP, which have generated change. However, when CoP were established at Sweco Netherlands, they rapidly gained recognition from top-management, which advanced the performance of circular economy practices. As mentioned above, Rennstam and Kärreman (2020) and Pyrko et al. (2017) are critical to managing CoP. However, Wenger and Snyder (2000) argue that CoP can benefit from managerial intervention, which we can see in Sweco Netherlands. The management granted legitimacy to the CoP, which evidently affected and improved internal practices of circular economy. Thus, when combining the findings from Sweco Netherlands and Finland, it could be argued that both bottom-up and top-down approaches can generate and allow change within an organization. Also, in Sweco Sweden, bottom-up initiatives concerning circularity are present, but these have not generated change to the same extent as in Sweco Netherlands. Despite the established sustainability team at Sweco Sweden, respondents ask for more managerial support. Respondents emphasize that motivated individuals create knowledge, but express the challenges related to the internal aspects regarding internal hours and the competition among divisions. This implies that individuals need increased support from the top-management in the Swedish organization. As Thomas and Hardy (2011), as well as Diedrich and Guzman (2015) argue, for change to be realized, interactions and involvements among all actors on different levels in an organization are needed, which in the case of Sweco seems to be realized through both bottom-up and top-down principles. Czarniawska and Joerges (1996) and Diedrich and Guzman (2015) claim that unconvinced actors in the change process are the result of failed or ongoing translation. This reasoning can also, besides the timing aspect, serve as an explanation to the unrealized incorporation of circular economy at Sweco Sweden, since the idea is not materialized as taken-for-granted in daily practices.

By examining previous studies (Czarniawska & Joerges, 1996; Diedrich & Guzman, 2015; Chia, 2014; Thomas & Hardy, 2011; Schmitz Weiss & Domingo, 2010; Rennstam & Kärreman, 2020) and interpreting our findings, we understand that change needs cautious management, realized through continuous actions and not through a disruptive, planned change program. However, we also argue that this is a result of managerial acceptance, where the crucial organizational decisions, such as the organizational structure, are decided on a top-management level. As Wenger and Snyder (2000) imply, the top-down approach is also essential as it provides support through various tools and resources. Adding on the respondents' thoughts regarding the challenges, we understand that change, therefore, is translated through both a bottom-up and a top-down management approach. In general, it could therefore be argued that a decentralized organization facilitates the flow of ideas among employees and the emergence of CoP within the organization. However, without managerial support ideas might not be realized, which can call for more centralized initiatives. Thus, management should strive

to coordinate resources and establish directives based on employees' ideas, since ideas can be incorporated, translated, through both a bottom-up and a top-down approach.

CONCLUSION

The report contributes to circular economy and organizational studies as it increases the understanding of processes of organizational change related to circular economy. By studying managers and employees within different business areas in a large multinational corporation, Sweco, we fulfill our aim to examine how circular economy is incorporated in an organization. The findings display that the practices regarding the concept of circular economy vary between the different business areas of Sweco, although some similarities exist. We answer the research question, how the concept of circular economy is incorporated in an organization, with four conclusions. First, we conclude that the concept of circular economy is incorporated through the process of translation among human and non-human actors. Digital tools, models, metaphors as well as national governments and organizations serve as important actors. These actors enable the materialization and translation of the concept among consultants at Sweco, realizing the concept as organizational practices. Second, circular economy is incorporated through communities of practices, CoP. Social constellations, i.e., CoP, at Sweco Sweden and Sweco Netherlands have made a large impact on the incorporation of circular economy. CoP occur thanks to Sweco's decentralized organizational structure and the knowledge intensity among the consultants. Through learning, innovation and work around shared interests within CoP, as well as through managerial support, the concept of circular economy is translated into practice. Third, we conclude that timing and context are crucial aspects for incorporating the concept. At Sweco Netherlands and Finland, where the national commitment started early on, the incorporation of the concept has matured both inside and outside of the organization, which has facilitated the translation process. On the contrary, Sweden established strategies recently, explaining why the translation process on a broader organizational level took off later, although it was visible in CoP before. Thus, timing is an important aspect for change to be realized. Finally, the incorporation of circular economy is facilitated by a combined bottom-up and top-down management approach. The translation process requires an emergent bottom-up approach where motivated individuals are allowed to learn, develop ideas and spread knowledge, as displayed in Sweco Netherlands. Simultaneously, these individuals and formed networks need support from top-management to successfully translate the concept into the whole organization and generate changed practices. Findings from Sweco Finland also show that top-down initiatives can transform an organization where the management decides to implement circular economy. Thus, a fine balance is needed between the two approaches. Bottom-up ambitions, similar to Sweco Netherlands, can be seen in Sweco Sweden, however, they still strive for managerial recognition.

To summarize, we conclude that social group constellations, such as CoP, can have a large impact on organizational operations. The translation process, which exists between human and non-human actors within CoP, becomes essential for the networks' compiled knowledge to be realized as practices in the rest of the organization. Thanks to driven individuals interacting in CoP through visualization tools, together with the timing aspects and management support, the

idea is translated into realized changes. With that said, a knowledge-intensive organization with an open learning culture and managerial support has all prerequisites to incorporate circular economy into the organization.

Our study contributes to the literature of circular economy and organizational studies. Previous studies of circular economy have focused on *what* needs to be done, but not *how* the concept should be integrated into organizations. Through this study, we have aimed to fill this gap by including organizational studies. We contribute with an increased understanding of how companies could incorporate their sustainability work, in regard to circular economy, into practice. We hope that the results of this study can be used as an inspiration for other organizations to improve the quality of their sustainability transformation. Further, we contribute to previous studies through a combined perspective of translation and CoP. It displays the complexity of organizational practices where the translation theory adds to another dimension of CoP studies. Our study also contributes specifically to studies within CoP literature concerning managerial implication, where we argue that CoP can benefit from management intervention and not limit CoP, which prior studies have occasionally stated. Since we take a practical approach to describe how ideas travel and translate within a large multinational organization, future research could focus on other kinds of organizations and if other managerial implications can be found. Especially, the bottom-up and top-down approaches can be interesting to investigate and compare between decentralized and centralized organizations or how cultural differences between countries matter. It would also be intriguing to study a translation process within manufacturing or producing firms since this study is limited to consulting. Moreover, it could be valuable to investigate what other tools exist in the transformation towards a circular economy. As of now, there is a need for tools for materializing the idea of circular economy, necessary to advance the circular development within organizations.

The climate crisis put great challenges on humanity. All modern societies must collectively partake in the transformation for a sustainable future and reduce the emissions causing environmental degradation. To conquer these challenges and reach the Sustainable Development Goals, innovation, as well as incorporation of new ideas are crucial. These ideas must be incorporated into new practices, which calls for increased knowledge of, for instance, circular economy and change management.

ACKNOWLEDGEMENTS

We would like to thank Andreas Diedrich and Fredrik Lavén at the School of Business, Economics and Law at the University of Gothenburg for academic guidance and support. We also direct our gratitude towards Chief Sustainability Director Mattias Goldmann at Sweco for supervision and support during our internship, which enabled this study. Lastly, we want to thank all respondents within the business area of Sweco Sweden, Netherlands and Finland for participating in the interviews, which constitute a major part of the data collection of this study.

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